THE COMPLETE GUIDE TO THE AMIGA

CU AMIGA

NO DISK ATTACHED?
ASK YOUR NEWSAGENT

THE NEXT GENERATION

WHERE WILL THE AMIGA GO FROM HERE?

HAS COMMODORE GOT IT RIGHT?

The A600 & A4000 – LATEST NEWS & OPINIONS

SPOOK SCOOP!

The Addams Family reviewed

PLUS

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1000 DISKS UP FOR GRABS

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MAY 1992 £3.95 US$6.95
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AN EMAP PUBLICATION

AMIGA ENTERTAINMENT AT ITS BEST ▪ DELIVERANCE ▪ GLOBAL EFFECTS ▪ EYE OF THE BEHOLDER 2 ▪ FIRE & ICE ▪ APIDYA ▪ STRIKER ▪ MIGHT & MAGIC III ▪ MAGIC BOY ▪ PACIFIC ISLANDS ▪ NINE PAGES OF PD REVIEWS ▪ PRINTER ROUND UP ▪ INSIDE! 30-PAGES OF SERIOUS SOFTWARE UNDER TEST

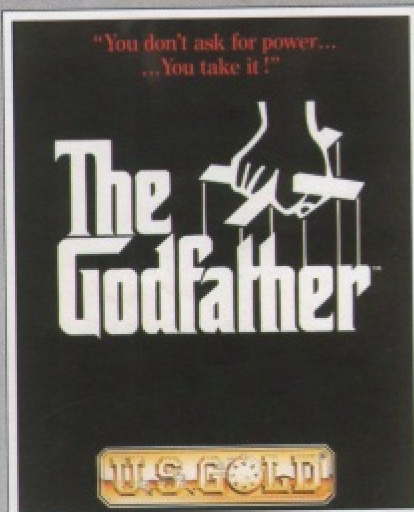


ARE YOU READY FOR A

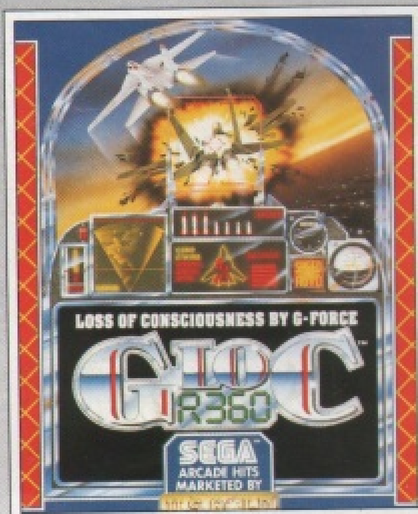
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- *Awesome animation, music and sound effects.*



CU AMIGA CONTENTS

may '92



Inside

The Amiga is an extremely versatile machine which is continually evolving and expanding. CU looks to the future of the machine and what you can expect to see in terms of add-ons...

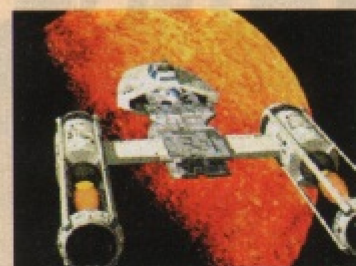
COVER PHOTO: EDDIE PARKS

SPECIALS

31 THE ULTIMATE AMIGA... In a month when Commodore launch another machine in the growing Amiga range, this time a low-end A500 Plus, speculation grows over what the next bold step into the unknown will be. The A4000 – what will it need to be like in order to safeguard the future of the Amiga against the PC threat? What do industry leaders, software houses and, perhaps more importantly, the end users, want from a new machine? As we investigate the possibilities we also investigate what is available now to those willing to pay for it – can we create tomorrow's machine today? Is the Amiga still holding it's own against the other 16-bit home computers and consoles?

Investigating the machines available today we take a closer look inside the A500 Plus and examine in detail what makes it special. Also in this special feature, we look at the sort of hardware and software that can be rounded up to make your Amiga into a PC-beater at a fraction of the price. The future is wide open and it starts here in another CU special report.

48 'ERE WE GO, 'ERE WE GO, 'ERE WE GO... As the European Championships draw ever closer, computer Football games are becoming big business once more. With Anco's legendary *Kick Off II* currently reigning supreme, can anyone knock it from its perch. CU Amiga is on the touchline as Renegade's newly-acquired *Sensible Soccer*, Rage's *Striker*, and countless other contenders for the trophy run on to the pitch. And what's happened to *Kick Off III*? Forget other preview sections, if you want to know what's in the running, this is the place to be.







ALL THINGS PD

The ever-bustling Public Domain scene has thrown up yet another array of essential megademos and unbelievable utilities, and CU Amiga is here to bring you all the latest advances on this most exciting of circuits. Sample fans – and Ravers in particular – will find renditions of 'The Bouncer' and Opus III's 'It's A Fine Day', and Wacko Jacko makes yet another demo appearance in a compilation of his most recent work. Meanwhile, Eric Schwartz is back and in fine form, and other eye-catchers include a rather spiffy *Lemmings*-orientated *Asteroids* clone, a series of Garfirld illustrations, and famous comic artist, Brian Holland, makes his Amiga debut in a stunning slideshow of his stunning Judge Dredd and Batman illustrations.

REGULARS

EDITOR Dan Slingsby **DEPUTY EDITOR** Steve Merrett **ART EDITOR** Andrew Beswick **TECHNICAL EDITOR** Nick Veitch **STAFF WRITER** Steve Keen **MANAGING EDITOR** Steve James **DESIGNER** Fiona Bourne **ADVERTISING MANAGER** Tom Glenister **DEPUTY ADVERTISING MANAGER** Martyn James **SALES EXECUTIVE** Karen Neill **CLASSIFIED/PRODUCTION MANAGER** Remzi Salih **PRODUCTION ASSISTANT** Esther Rodd **PUBLISHER** Garry Williams **EDITORIAL & ADVERTISING** 071-972 6700

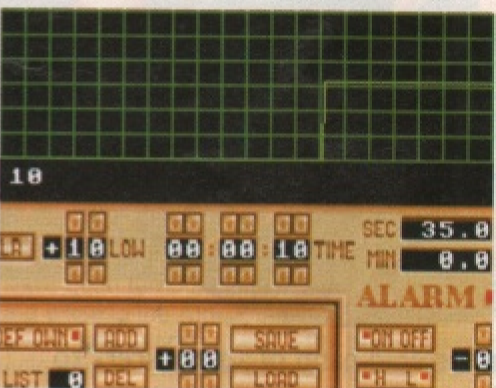
CU AMIGA Offices –Priory Court, 30-32 Farringdon Lane, London. EC1R 3AU. Tel: 071 972 6700 FAX: 071 972 6701 *Distribution* – BBC Frontline Ltd, Park House, Park Road, Peterborough PE1 2TR Tel: 0733 555161 *Subscriptions* – PO Box 500, Leicester LE99 0AA *Subs Enquires* – Tel: 0858 - 410510 Order Line (answerphone) 0858 - 410888 *Back Issues* – P.O. Box 500, Leicester, LE99 0AA. Tel: 0858 - 410510. SS

ABC 90,251 July -Dec 1991


Sequelitis is back with a vengeance, as U.S. Gold unveil the eagerly-awaited sequel to *Eye Of The Beholder* – can it live up to our high expectations?


For those of you struggling with *AMOS*' many functions, help is here in the form of *Easy AMOS*.


Rescued from the Mirrorsoft crash, Graftgold's *Fire And Ice* is finally here – courtesy of Renegade.


The wonderful world of electronic gadgetry makes its way over to the Amiga in the odd-looking form of Catus' *Tekno Amiga*.


Video titling is becoming more and more easy to do using the Amiga. New vids on the block, *TV*Show* and *Presentation Master* come under scrutiny.

COVERDISKS



Our coverdisks have always been famed for their up-to-the-minute demos and variety of utilities and accessories, but this month we've got to admit that we've excelled ourselves.

Leading the way is Byte By Byte's stunning *Sculpt 4D Junior* package – and we're giving it away in all its entirety. *Sculpt 4D Junior* is the perfect entry to getting into 3D animation and rendering.

In addition, for anyone who is struggling with limited disk space, we are also giving you *Powerpacker 3.0*, too. This essential utility can save floppy users up to 60% of their disk space, and is well-supported within the PD circuit. Also, should you wish to upgrade, there's also a demo of *Powerpack 4.0*.

Finally, games players haven't been neglected, either. An entire level from Ocean's *The Addams Family* awaits your attention. Comprising the dungeon section from the final game's five-stage house, all manner of nasties and obstacles must be avoided as you guide Gomez around the sprawling mansion as he searches for his kidnapped son, Puggsley.

FOR MORE INFO ON THESE GREAT DISKS, TURN TO PAGE 18...

"BLACK CRYPT" - IF YOU LIKE YOUR DUNGEONS DRIPPING WITH MONSTERS.

The "Black Crypt" ™ positively oozes with twenty five of the most hideous and despicably cunning monsters.

They await you in a dozen plague-ridden interconnecting dungeons, on 20 spell binding levels.

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Your task is to lead an intrepid band of adventurers to retrieve the mystical artifacts that may hold the power of the four Guardians and provide your only chance of saving the world from evil.

The "Black Crypt" is the most electrifying fully animated dungeon adventure, with exceptionally detailed rotating point-of-view perspective.

It features real-time combat and spell-casting, all in 64 colour extra half-brite Amiga graphics.

But be warned, you enter this breeding ground of evil at your own peril. And hopefully not on a full stomach.

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THE RECESSION BYTES DEEP AS ELECTRONIC ZOO CLOSE

RECESSIONARY BLUES

There may have been a general election, but the recession is still biting hard. CU Amiga reports on two important casualties of the present economic downturn and asks when will it end...

ZOO CLOSES

European Electronic Zoo, purveyors of fine quality software such as *Magic Garden, Germ Crazy* and *Under Pressure*, are no more. Apparently, the firm went under due to liquidity problems, but Zoo boss, Stewart Bell, was unavailable for comment as CU Amiga went to press. Despite a patchy track record, Zoo looked set for better things with the recent release of their massive RPG game, *Abandoned Places*. Scoring a healthy 83% in the March issue of CU, the game raced up the charts upon its release.

Sadly, the company won't be able to reap the rewards of the game's success. Coming just months after the Mirrorsoft crash, we're left wondering how many more software companies will be forced against the wall. A good Amiga game can still expect sales in the region of 20,000 copies, but average titles are failing to shift more than 10,000 units. That's an important benchmark figure as when you take into account the development, production and advertising costs a company incurs during a game's manufacture, things will get tight if sales dip below this magic number. Already, there have been rumours that some firms are considering ditching the Amiga over the next couple of years, and moving towards the burgeoning console market. This has already happened in the ST market and whether the Amiga suffers the same fate rests firmly in the hands of Commodore. Although sales of the Amiga are at an all-time high, there's no doubting the need for a substantial upgrade in the near future. With the A600 and A570 in the pipeline, things are looking good, but until we can take a closer look at these machines we won't know for sure. . .

AMIGA CENTRE SCOTLAND TO CLOSE ITS DOORS

In a development that may come as a surprise to many, Amiga Centre Scotland is closing its Edinburgh-based shop. ACS is well known in the industry as being the home of the Harlequin, the only true 24-bit display card available for the Amiga, as well as for their part in organising a series of Animation festivals and as a focal point for Amiga owners north of the border.

All is not doom and gloom, though. The reason given for the move of premises and the public lock-out is that now ACS will be able to spend more time on research and development of future



Harlequin upgrades and possibly some entirely new products, as well as selling related packages by mail order. 'Now we'll have time to do some work without having to bother selling printer cables,' commented Martin Lowe.

What the closure does mark, however, are the tough trading conditions hitting the high street. After the boom period of the late 80s and early 90s, the harsh realities of a bust economy have come home to roost and many independent computer retailers are finding it tough to compete with the big chains.



In case anyone needs to get in touch with Amiga Centre Scotland, their new address is: Harlequin House, Walkerburn, Peebleshire, Scotland EH43 6AZ. You can call them on 089 687 583 or fax on 089 687 456.

SILENTS QUIT DEMO SCENE

Top Danish demo creators, Silents, have made their last megademo for the Amiga. In a shock development, the team have released their stunning follow up to last year's *Global Trash* demo on video tape rather than floppy disk. Apparently, the group have become disillusioned with the scene and the technical restrictions imposed on them using disks for distribution.

Their new megademo, *Global Trash II*, features live Camcorder footage shot at a Rave, interspersed with some stunning new Amiga effects. Beginning with an incredible fog effect, the accompanying music begins slowly before building up into a Hardcore rave beat. Interestingly, there are no scrollies, plasma or bob effects to be seen, only a host of amazing new effects. One of these features a *Sculpt 4D* animation of a man's face rotating through 360° and lip-synced throughout.



Silents have also branched out into game design, and originated 21st Century's *Pinball Dreams* which we reviewed last issue. Unfortunately, the game was cracked before its release, and widely distributed on Bulletin Boards throughout Europe. Undeterred, the group are considering a number of new offers and are busy putting the finishing touches to an as-yet-undisclosed project.



BUNDLES ONLY FOR GVP ACCELERATOR

A flood of GVP minicards are due to arrive in the UK by the time you read this. The minicard variants, including at the moment an accelerator and a PC emulator, are an easy upgrade path for A500 owners. Fitting inside the GVP series II Hard Drive, the minicards don't require any modification to the A500 itself, leaving warranties intact. The ability to add on an accelerator in this way is a first, and it's just as well that GVP have done it, since the Series II is notoriously unfriendly to third party accelerators installed on the motherboard.

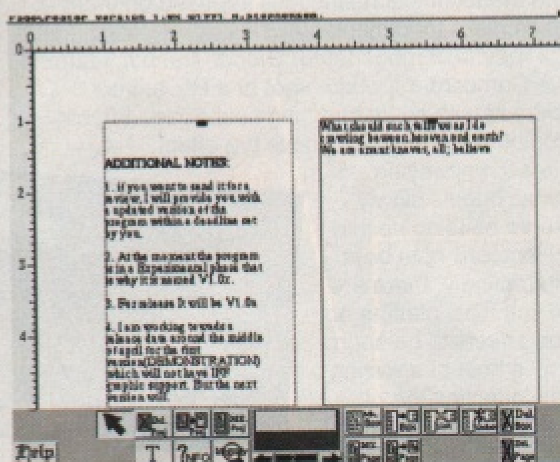
Originally billed as add-ons, these minicards will now only be available in the UK as part of a complete unit. However, existing owners will be offered some sort of upgrade path. Said Andy Leaning of Silica: 'We are not sure what form this upgrade will take or how much it will cost, but we will not desert our customers.'

17 BIT ANNOUNCES CHEAP DTP SOFTWARE AND UPGRADE OFFER

DTP ON THE CHEAP

17 Bit are hard at work finalising a release version of an entry-level DTP system. Planned to cost less than £10, the package will include some fairly advanced features, including Compugraphic Font support, a window-based text editor, and variable zoom levels.

At present, the only sub-£10 package is Foxbase, which isn't exactly a great advert for the PD market. 17 Bit's system will be updated every six months or so with trade-in offers available for existing users. Extensive professionally-produced documentation will be provided although the system does include a very workable on-line help system.

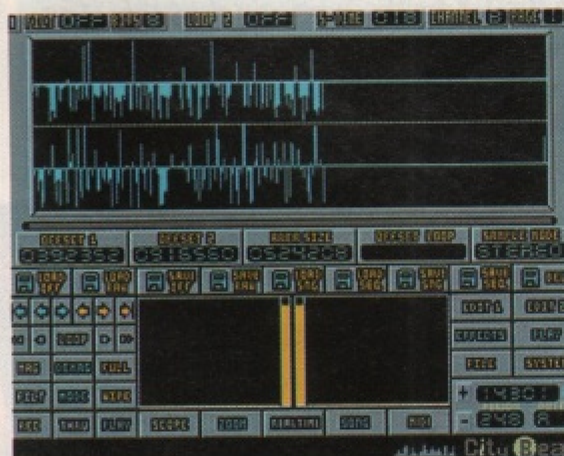


BEAT STUDIO ON THE STREETS

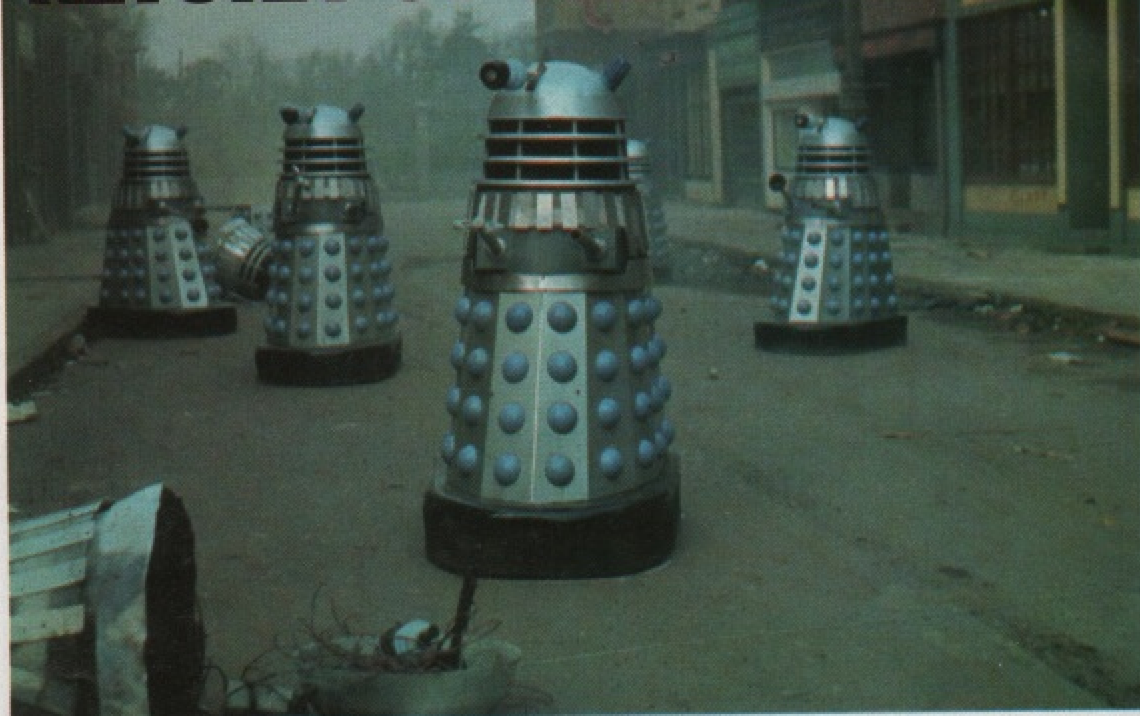
City Beat have just released a stereo sampler for the Amiga. Beat Studio includes a compact stereo ADC interface with twin phono inputs and a jack lead for connecting to Walkman-type cassette or CD players. The software support has been provided by the author of Technosound Turbo, once regarded as top of the heap of Amiga samplers.

Advanced features will include: samples at up to 36KHz in stereo and 57KHz in mono, simulated stereo mode, real-time echo effects, and a variable digital delay to program the echo. An unusual addition is a range of real-time voice-altering effects (guaranteed to break the ice at parties). Also included in the software are some fairly extensive looping facilities, amongst which are reverse loops and sweep effects. Another interesting inclusion is a RAMscan mode – in effect a built-in 'Ripper' which enables the user to lift samples from other packages.

Beat Studio is priced at £39.95 so it may be worth giving City Beat a call on 0234 857777



RETURN OF THE TIMELORD



Appropriately marking the 30th anniversary of the BBC's cult sci-fi show, Doctor Who, Alternative have announced that they've secured the rights to produce a new Doctor Who game. Visitors to April's European Computer Trade Show were greeted by one of the Doctor's Dalek foes and an advertising blitz to publicise the game, which is due out later this year as either a mid or full-price release.

Previous attempts at converting the popular show into a playable game have been laughable affairs. Apart from a game that appeared on the BBC Micro, the most famous attempt at the license was MicroPower's *Doctor Who and the Minds of Terror* which was released on 8-bit machines more than five years ago. Unfortunately, MicroPower only secured the license for Colin Baker's Doctor Who persona and, thus, K9 became a mechanical cat and the Daleks were replaced by what looked like upturned dustbins on wheels.

Scant details are available about the new game, as the title is still in the planning stages. First ideas revolved around a maze game set on Gallifrey, Skaro and Telos, similar in style to *PacMan*. Doubtless things have moved on apace since then, though, and we'll bring you a First Impressions piece as soon as we can.

DID YOU SEE?

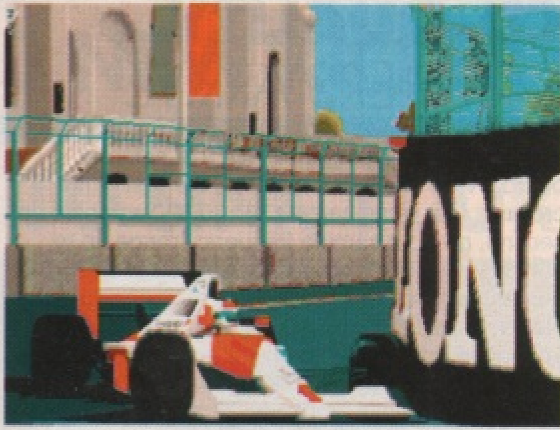
In the mad preamble to the April 9th election shocked Amiga owners may have noticed everyone's favourite home computer making a guest appearance on a Tory party election broadcast. As the small boy climbed out of bed to use his computer the Commodore logo was clearly visible on the front of the monitor. There followed a sequence of video fades where Amiga graphics slowly dissolved into real-time footage of tanks in Azerbijhan or soviet missile silos. In fact, it was so well done one could almost believe it was an advert for the multimedia capabilities of the Amiga (obviously Commodore weren't too closely involved or they would have insisted on using a CDTV).



P...P...PICK UP A PENGUIN

After buying ad space in Millennium's *Robocod* game, McVities' Penguin chocolate bars are set to sponsor the GALLUP charts. From the beginning of April, all ELSPA charts will feature the Penguin logo and character.

What interests us most is the fact that the deal was put together by Micro-Time Media, a firm who specialise in selling advertising space in computer games. The company were also responsible for placing billboard ads for Seven-Up and Duckham's motor oil in Microprose's



recent *Formula One Grand Prix* and have a number of other deals in the pipeline. Such product placement is common practice in American movies, where nothing appears unless it's been paid for, and Micro-Time look set to successfully import the idea into computer games.

According to MTM boss, Danny Bobroff, products are only placed where they will tie-in with the game in some way. Obviously, Seven-Up and Duckhams were naturals for *Grand Prix* and actually enhanced the sense of realism by dotting the ads around the race tracks. What next, one wonders? What about adverts for condoms in *Leisure Suit Larry*? Addidas trainers in *Kick Off*, and Barrett Homes in Domark's *3D Construction Kit*?

HEX GOES HARDCORE

The world's first hardcore rave CDTV release, *Global Chaos*, is set to be unleashed sometime in May from innovative publishing house, Hex. If the name sounds familiar, that's because the same company were also behind the spectacularly bad *Top Banana* game, released at the beginning of the year.

The CD combines animation with three ambient house tracks and four hardcore techno tracks. Anyone who saw the smart intro to *Top Banana* will know what Hex are capable of, so expect more of the same. The CD will retail for £29.99.





CU ON-LINE

Well, not quite, but we will be soon. So if you've got a modem you'll be able to bombard us with all sorts of trivia over the phone lines. Until then, we've set up a CU conference on a number of boards. Anyone wishing to contact us can leave a message on the board in the CU AMIGA area and we'll get back to them as soon as possible.

Node No.	BBS	Location	Phone No.
2:255/406	The Hotel BBS	Rochester, Kent	0634 831389
2:255/400	The Silver Link	Telford, Salop	0952 641724
2:255/404	Reachout BBS	Crewe, Cheshire	0270 583287
2:253/510	Amiga Junction	London/Surrey	0372 278000

CD ROM LAUNCH DELAYED

No sooner have Commodore pencilled in a release date for their CD Rom upgrade, than they promptly change their minds. Delays have seemingly plagued the machine since news was first leaked of its existence just under a year ago. Now, according to reliable information leaked to CU, the machine's release date has been delayed once more. Enthusiasts will now have to wait until September at the earliest to get their mitts on one of the drives which effectively enables an Amiga to run CDTV software.

Rumours persist about incompatibility problems with the machine, and this could be one reason for the delay. Another could be the dearth of decent software support for the CDTV. Few titles are worth buying, and many are just expensive copies of existing Amiga software. Until there's a good selection of utilities and games readily available for the machine, Commodore may keep on delaying its launch indefinitely – who knows...

MORE FROM MAXIS

SImulation specialists, Maxis, have been exceptionally busy of late. Due for release within the next couple of months is the Amiga version of *Sim Ant* which should be reviewed next issue. Then, towards the end of the year, we should see *A-Train*, a railway construction game of enormous depth set to rival Microprose's *Railway Tycoon*.

Sim Farm is scheduled for release early next year and, yes, it will simulate the running of a farm complete with battery Hens and Foot and Mouth disease. Later still, comes *Sim Life* where the objective is to guide a life-form from its early primordial origins through the evolutionary process. There's the chance to play mad scientist with your chosen species as the game will have a genetic engineering option to help mutate your life forms into all manner of weird beasts.

At the back end of 1993, comes the sequel to the award-winning *Sim City*. Imaginatively titled *Sim City 2000*, the game promises to be immense with the city's infrastructure expanded considerably. There'll be many more construction tools to juggle than before and there will also be an enhanced CDTV version.

X MARKS THE SPOT

Weekly (weakly?) games title, Games X, has finally bitten the dust after nearly a year of outrageous claims that the magazine was pulling in readers faster than Julia Roberts gets film offers. On its launch in April 1991, erstwhile publisher, Hugh Gollner, claimed the title's first ABC would exceed 60,000. In reality, the title failed to be the money-earner Europress hoped for, and sales were rumoured to be nearer the 20,000 mark. The last issue of the multi-format mag hit the newsstands on April the 27th. Covering all computer and console formats left the magazine open to competition from single-format mags which could offer more specific and in-depth coverage. Only C&VG appears to have got the mix right concerning multi-format coverage and, that again, is aimed at the pre-teen market.

ENTRY LEVEL LASERJET



The printer war is on again as Hewlett Packard launch their new entry level system. The HP LaserJet IIPplus is a cut-down version of the industry standard in laser printers. Incorporating the proven Hewlett Packard engine and 512k of memory, the new printer is aimed at people who use an HPLJIII in the office and want a similar standard of printer technology at home.

The IIPplus is fully upgradable with larger paper trays, memory boards (necessary for heavy graphics work) and even an HP PCL5 cartridge to allow full compatibility to the latest LJIII range, although you may find that simply being an LJII is good enough for most applications.

One of the HP's claims for the LaserjetIIPplus is that, although its top speed is a mere four pages per minute (measured, as with all laser printer speeds, as the number of full page copies that can be output in a minute), its actual engine speed (the time it takes to accept the data and print the first page) is way ahead of most other systems. Incorporating a 16MHz processor and new internal hardware HP claim a ten second speed increase over previous LJII models.

The price may still be a bit steep at £869, especially considering you will need extra memory to take advantage of full-page graphics at 300dpi, but at least it's a move in the right direction.



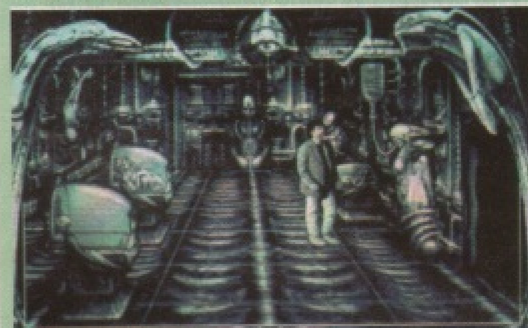
Mindscape's Sherlock Holmes

GAME MUTTERINGS

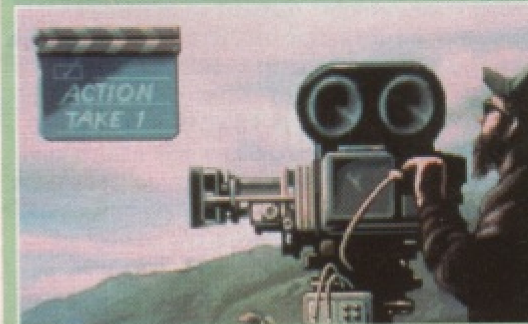
* Industry vet, Mev Dinc, and his Vivid Image cronies are currently working on a sequel to *First Samurai.* * Nirvana, the team responsible for Ocean's *Elf*, are busy developing two games. *Disaster Strikes* is a game similar to *Elf* which uses a scrolling cityscape as its backdrop, and *The Edge* is a blaster requiring strategy as well as a gun-happy trigger-finger. * *Darkseed* is *Another World*-y cinematique arcade adventure featuring some lush graphics by H.R. Geiger. * *Stunt Island*, from Disney, allows players to design, fly and film their own stunts. Expect it early next year. * On a similar theme, Disney are also working on a Roller Coaster sim which lets the player construct their ideal ride. Loopy, or what? * CDTV owners can look forward to a spot of super sleuthing courtesy of Mindscape's new *Sherlock Holmes Consulting Detective* game currently in production.* *Total Carnage*, the fast-paced follow up to *Smash TV*, is set to debut in an arcade emporium near you this month. Whether the license will be picked up by Acclaim or Ocean is another matter entirely. *



Disney's Coaster



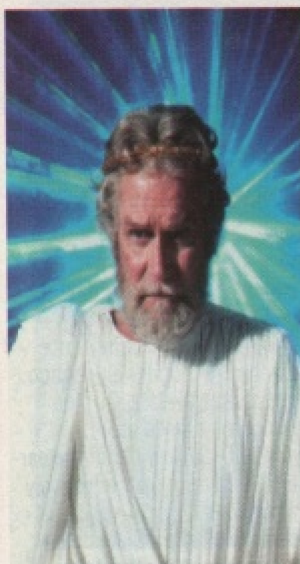
Darkseed by Mirage



Disney's Stunt Island

IT'S THE END OF THE WORLD AND WE FEEL FINE

Imagitec Design, the force behind *Viking Child* and Mirage's forthcoming *Humans*, have yet another game up their sleeve. *Ragnarok*, also to be published by Mirage, is based on the ancient Norse game of Kings Table and involves a battle royale between the gods of Viking mythology. An intriguing strategy board game for the home computer, *Ragnarok* lets the player assume the guise of Odin, king of the gods, and pits him against a variety of evil gods and their henchmen. *Ragnarok* has only just started development, but Mirage are looking towards a Christmas release.



REALTIME 12-BIT ANIMATION

Avideo is the latest video product to be taken on by Checkmate Digital. Having been stung by Black Belt with Ham-E, they are obviously looking to outdo the revamped Amiga when it eventually arrives.

AVideo comes in two configurations. The first is a 12-bit board, which only allows up to 4096 colours (the same as HAM) but it will do so in Hi-res Interlaced Overscan mode (768 x 580) and without any of the fringing effect associated with HAM. PIP (picture in picture, or the ability to have mixed resolution screens) will be supported and the package will come complete with application software and an offer for *TVPaint*, widely acclaimed as the best professional paint package.

Avideo 24 is essentially the same only with the capability to display 24-bit images at 768x580 resolution and consequently, the ability to double buffer 12-bit images for animation purposes. Unfortunately, neither of the boards follow approved expansion paths, though, and to fit one to an A500 will require the user to invalidate their warranty and may stop it from working with other peripherals or software.

There is nothing especially impressive in the specification but when you look at the prices, with Avideo12 at £249 and Avideo24 (including *TVPaint1.5*) at £599, you may want to give Checkmate Digital a ring on 071 923 0658

CD-QUALITY SAMPLERS ARRIVE

The latest hot news from SunRize industries is that they are now shipping their AD1012 sampler board. What separates this from the rest of the crowd is that it can sample at 100,000 samples per second, giving a sample frequency range up to 50KHz – well above the range audible to the human ear and almost twice the frequency of a CD player. In addition, the AD1012 samples at an enhanced rate of 12-bits giving a 4096 level sound resolution (a dramatic increase on the 256 level resolution currently employed by standard Amiga samplers).

The card can play back four channels of 12-bit sound simultaneously and decode a SMPTE time code for Video work. In fact the card is Toaster compatible and includes a SMPTE generator to trigger a cue-list without the need for an external time code. Incorporated in the board is a 2105 Digital Sound Processor (a 40MHz chip rated at 10MIPS). This is a custom co-processor which, rather like the blitter, handles all the sound functions without too much interference from the Amiga's processor. This enables the AD1012 to be effectively used in multimedia applications where the Amiga is needed to simultaneously control graphics and disk accessing as well as sound.

The accompanying software, Studio 16, allows direct sampling to disk. Many record companies are now using this method to prepare digital masters for CD reproduction. Unfortunately, at 5Mb per minute, you'll have to have a fairly big SCSI drive before you can master Tubular Bells for yourself. Updated 16-bit versions, which will actually give better than CD-quality reproduction, are promised soon, although pricing and release dates have not yet been given.

BY ANY OTHER NAME

Black Belt have run into trouble with their latest amazing graphics package, Image Master. They have been working for some time on a package which will promote the Amiga to the top of the list when it comes to high-quality video work. Some of the advanced features include 24-bit morphing routines like those used in the film Terminator 2. Manuals have been printed, disks duplicated, and boxes shipped but to no avail.

Apparently, Black Belt did not undertake an extensive enough product search before trying to break into the UK market – there already is a product selling here by the same name. For copyright reasons it would be illegal for anyone to sell it here under that name. Either the name must be changed (presumably including all the references in the manual and disk labels) or it can't be imported and sold.

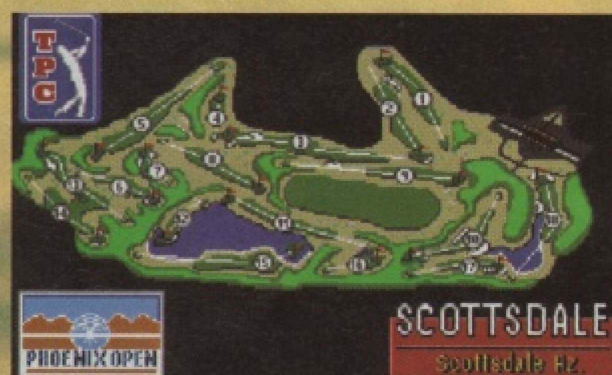
Unfortunately, the package is already on sale throughout the rest of the Amiga world under this name. Changing the name and packaging would not only be confusing but also expensive – Black Belt estimate that it would cost them $12,000 just to produce a new version for the UK. One possible solution that Black Belt are investigating is to get permission from the current owners. Until such a deal is made, Black Belt are advising customers in the UK to order their copies from overseas. Perhaps in light of this it will eventually appear under the name "Image Remaster"

PGA TOUR®GOLF - NOW WITH 3 NEW KILLER COURSES TO SINK YOUR TEES INTO.











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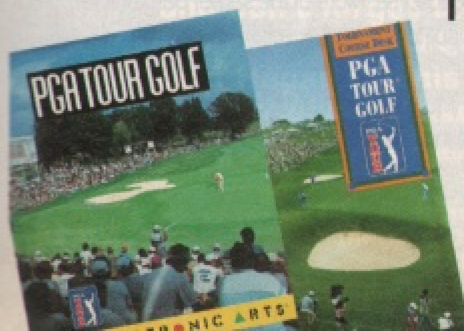
Plus, you get all the features that have made **PGA TOUR Golf** one of the best selling computer golf programs ever: fly-by course previews, hints from the pros, TV-style coverage and realistic crowd reactions that reflect your best shots.... and biggest duffs.

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QUICKSHOT ANNOUNCE TWO NEW JOYSTICKS



Main picture: The Intruder joystick in all its glory. Inset: Quickshot's Aviator joystick taking flight sims into another era.

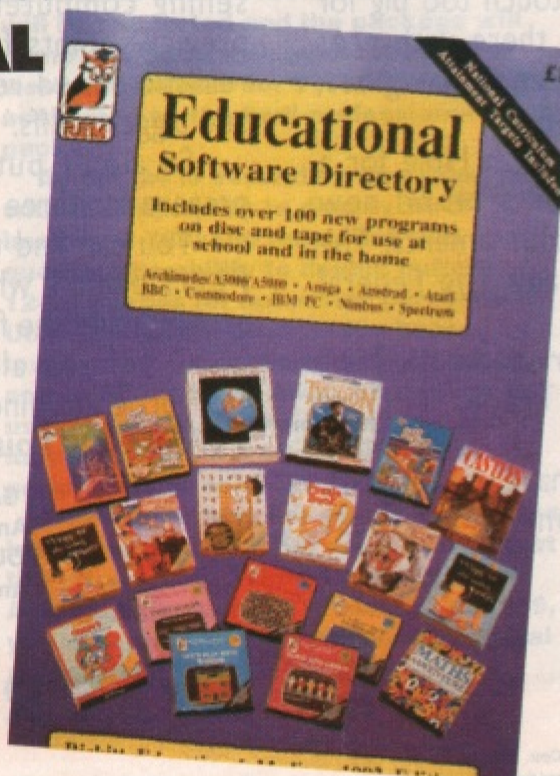
NEW AIRCRAFT JOYSTICKS

For committed flight sim users, Quickshot have released two hi-tech joysticks to provide extra realism and control during play. The Intruder is a new one-handed, aircraft-type joystick which offers dual firebuttons, two-speed turbo fire control and a six-foot cable. With an extra wide joystick base and an easy to grip handle, this could be the answer to every flyboy's dreams. Priced at a reasonable £29.99, the stick should be in your local software emporium this month. Also on offer is the Aviator, featuring easy-to-grip handles, altitude and level indicators, frame-by-frame slow motion capabilities, four positive response firebuttons and two dual speed turbo-fire selectors. Such options don't come cheap, however, as the Aviator will set you back £34.99. We'll have a full review of both sticks next month.

FREE EDUCATIONAL SOFTWARE DIRECTORY

If your local softshop is a bit lacking in educational software, look no further than Rickitt's Educational Software Directory. The latest 1992 edition weighs in at a massive 96-pages and covers all major computers including the Amiga. What's more, the catalogue includes details of more than 500 programs with informative descriptions of each package and easy-to-order instructions.

The Educational Software Directory normally retails for £1, but is available free to CU AMIGA readers. To get your copy, simply telephone Rickitt Educational Media on 0460 57152, Fax them on 0460 53176, or write to them at: Ilton, Ilminster, Somerset, TA19 9HS, stating that you read about their catalogue in CU AMIGA.



THE SHOW CALENDAR

May

15-17th MAY
AMIGA SHOPPER SHOW
Lots of bargains on offer for everyone's favourite machine, plus your chance to try before you buy. Tel: 0225 442244

16th MAY
ALL FORMATS FAIR
Sandown Park. Incredibly popular show full of cut-price software. Tel: 0225 868100.

17th MAY
ALL FORMATS FAIR
Bristol. As many dealers as possible crammed into a small space, selling incredibly cheap software and hardware at a fraction of the usual price. Tel: 0225 868100.

19th-21st MAY
SCOTTISH COMPUTER SHOW
For those living north of the border, here's a show chocful of all the latest hardware and software utilities. Tel: 0822 614671.

28th-31st MAY
SPRING COMPUTER SHOPPER
With a special Amiga shopping centre, this promises to be the event of the year. All the major dealers will be taking space and there will be everything the Amiga owner could possible want under one roof. This is the fifth Computer Shopper Show and it just keeps getting bigger and better. This time the staff of CU Amiga will be on hand at a special Amiga clinic to help you with all your problems and offer advice on upgrades, hard drives, and anything else you care to ask us. Plus, we'll have a few bargain offers of our own to tempt you with! We've also arranged a special CU Amiga discount for all our loyal readers. All you have to do is ring 071 373 8141 and you'll receive a 25% discount on the price of a ticket. The hotline is open 9-6 Monday-Saturday. Alternatively, see the advert for the show on page 16 of this issue of CU. See you at the show. For additional information, please ring 081 868 4466.

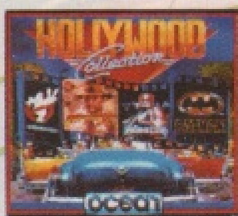
June

7th JUNE
ALL FORMATS FAIR
Glasgow. The all-travelling, all-selling Formats Fair hits Glasgow with bargains aplenty. Miss it not.
Tel: 0225 868100

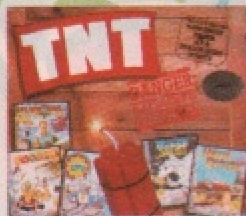
14th JUNE
ALL FORMATS FAIR
Haydock Park Racecourse. More of the same. Bargains to be had, but watch out for the crush. Tel: 0225 868100.

If anyone has any information on an upcoming show and would like a free listing, please ring CU editorial for a mention on this page.


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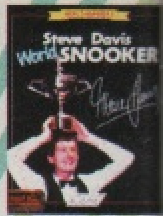

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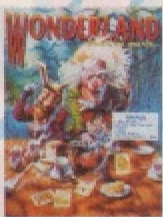

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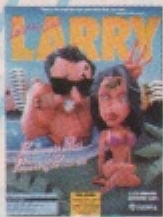

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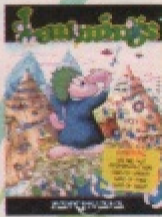

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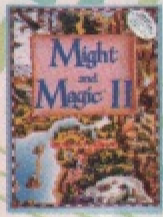

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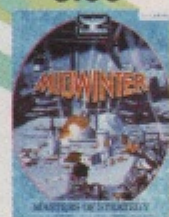

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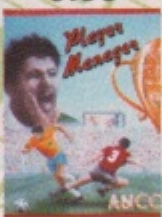

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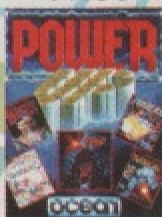

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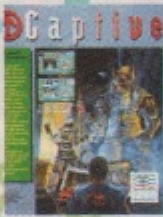

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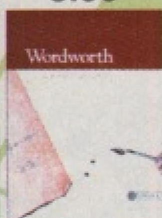

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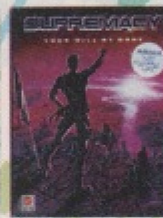

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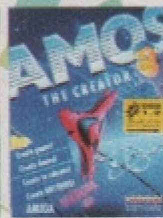

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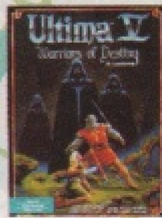

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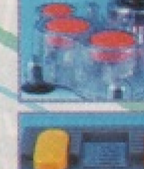
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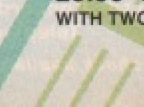
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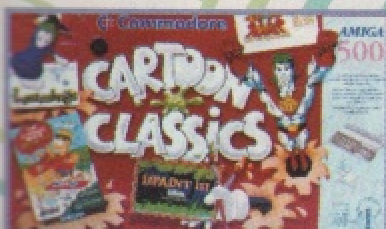

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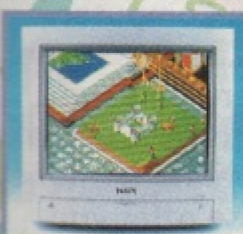
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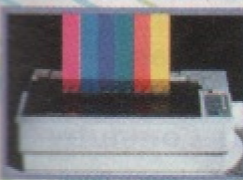


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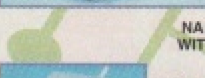
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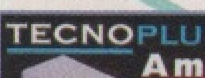
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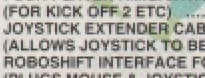


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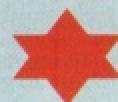
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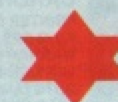
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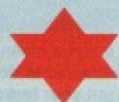


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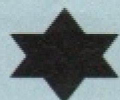
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Welcome to the CU Amiga coverdisks. We have a real treat for you. Not only are we giving away the excellent Powerpacker 3.0 utility, we're also giving you Sculpt 4D Junior, too. In addition, games players are equally well catered for as Ocean's brilliant Addams Family licence hits our second disk... 32 33

COVERDISKS

POWERPACKER3.0

DISK 32

The more astute of you will have noticed that there are two full commercial programs on CU's Disk 32. *Sculpt Animate 4D jr* may be the more exciting, but that doesn't mean that *Powerpacker* is any less useful. For a start, how do you think we managed to fit two commercial programs on one disk in the first place?

INTO THE ARC

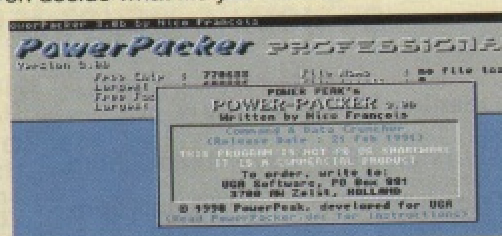
Powerpacker 3.0 is a cruncher. In order to get more out of your magnetic media you are bound to be considering the archive option. This is where the data or program is compacted by various binary tree or other algorithims. Instead of holding the pure data, the archived file will contain instructions on how to create the original data. The problem with archiving data is that in order to use it again you must first unarchive it. This can take time, can be annoying and even impossible if you have already used up the space you 'saved' when you archived the file in the first place. The answer to this problem is a cruncher.

A cruncher will compact data, not as well as an archiver maybe, but when it has finished, it writes a special decrunching header on to the file. This means that when the file is executed it automatically triggers the decrunch routine, which unpacks the program directly to memory. This is all transparent to the user, the only side effect being a slightly longer loading time.



GETTING ON WITH IT

In use, *Powerpacker* is simplicity itself. First of all, before you even decide what file you want to crunch, you should select the preferences you want from the menu. Firstly, you will want to set the buffer size (small, medium, or large). The buffer will produce a great increase in speed so it is wise to give this as much space as you can afford. Be wary of using a large buffer size on an unexpanded machine, though.



Powerpacker Professional has support for overlays. Now you can crunch *DPaint*!

The second thing to set is the efficiency. Obviously, the best efficiency means that the file should be optimised to the smallest amount of space, but it will also take longer to crunch.

You can also set the decrunch colours. This is just a bit of fun, really. As it works, it simply flashes the screen using a myriad of coloured bars, and looks rather similar to the way the good old C64 used to look as it loaded games. In order to let you know that something is going on whilst decrunching your file, *Powerpacker* will cycle the colours on workbench or the pointer. There are a multitude of other preferences but they are strictly the domain of the more technically minded. If you want to find out more about them read or print out the doc file on the disk.



Setting up a script means you can leave *Powerpacker* to do the work whilst you put your feet up.

THE CRUNCH

To start a crunching operation, simply select Load from the Project menu. A requestor will pop up asking you to select a file to load. Navigate around the directories using the gadgets and options to select the file you want. Select OK and as the file is loaded in it will automatically be crunched.

A percentage timer will appear showing you how far there is to go with another percentage showing how much space has been saved. If at any time during the crunch you get bored or decide that you wanted to use different settings or you can abort the crunching process by holding down both mouse buttons.

When everything is finished just use the save option to re-write the file back to the disk (or another disk). Data files will automatically be given the '.pp' extension. This has no particular evil or arcane significance, but it does make it a bit easier to work out why VILBM won't work with what you know to be a picture file.

To really get to know *Powerpacker* you should read the doc files on the disk, but you can easily get through the next twenty years without ever needing to know whether you should alocate BSS to Chip.

SUPPORT Behind every good utility there is a good support file. The PP range of files are flexible and useful – even if you never use *Powerpacker*. *PPMore* is a replacement for Workbench's More utility. In addition to reading standard text files, *PPMore* will enable you to read crunched text files immediately – without the need to decrunch them first.

PPShow is a similar utility which will replay animations. To use either of the files you must have the *Powerpacker* and reqtools libraries in your workbench directory. To install these libraries simply boot up on Workbench, open a shell and type:

```
copy CU32:libs/reqtools.lib libs:
copy CU32:libs/powerpacker.lib libs:
```

The libraries are now installed and you will be able to run *Powerpacker* or any of the utilities even if you have not booted from the CU32 coverdisk.



The latest version of *Powerpacker* has ARexx support for interprocess communication as well as support for all the new screen modes available with the Enhanced Chip Set.

DEMO **Also on this month's utility disk is a demo of the very latest version of *Powerpacker V4.0*. This new version takes advantage of some of the special features of Workbench 2.0 (if you are lucky enough to have it) and also includes full ARexx support.**

The demo version will allow you to load in files, see the new progress display and requestors. However, you won't be able to save the files again once you have crunched them – after all, it is only a demo. Luckily we are doing a great upgrade deal for readers of CU. **See the coupon on page 159.**

SCULPT 4D JUNIOR

You're probably already aware of it, but free on the cover of this month's issue of your favourite Amiga magazine is one of the best 3D graphics packages around. *Sculpt 4D Junior* allows the user to create huge, intricately-designed solid objects, and colour or light them in any way you like. They can then either be saved as pictures to wow your friends, or, with a little effort, be used to create stunningly realistic animations.

One of *Sculpt*'s best assets is that it is so easy to use, and these pages are designed to help you get up and running with your new utility as quickly as possible. For full details on this excellent package, please refer to this issue's 24-page graphics and animation supplement.

BASIC PRINCIPLES

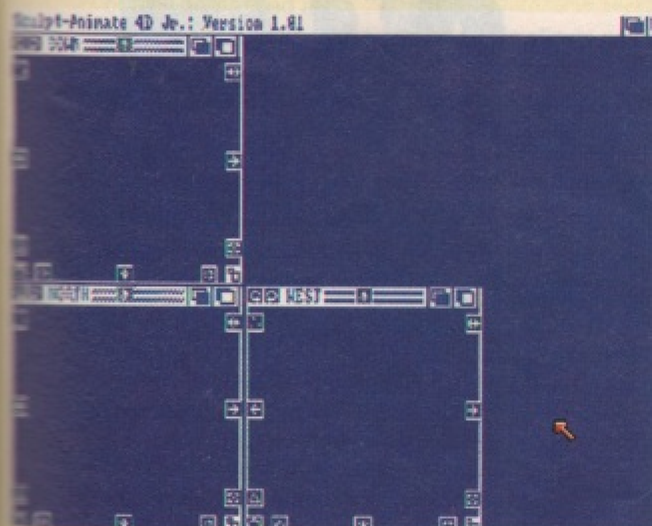
Before I explain what those three windows on screen are for, let's spend a moment perusing the basics of three-dimensional drawing. Anyone who has ever been involved with technical drawing will already fully understand the principles behind three-view images, and can happily skip to the next section. For anyone else, the fundamentals behind *Sculpt*'s drawing system will take a little explaining.

Everybody knows that you can't draw a true three-dimensional object in two dimensions. It can't be done. To fully display an object's size and shape on a flat piece of paper takes three drawings, one of which is to represent a view through a wire-frame model of a shape. By doing this, you can tell exactly what the shape looks like from all sides long before you've actually started to build it. *Sculpt 4D Junior* lets you create your objects in this way, building in three separate dimensions, before the program pieces them together for you.

THE TRI VIEW

The three windows shown represent the current object or area of an object which you are working on and is shown as a wire-frame image from three different angles – from above looking down, south of the object looking north, and east looking west.

Each of the windows relates and interacts directly with the other two. Select a corner in one

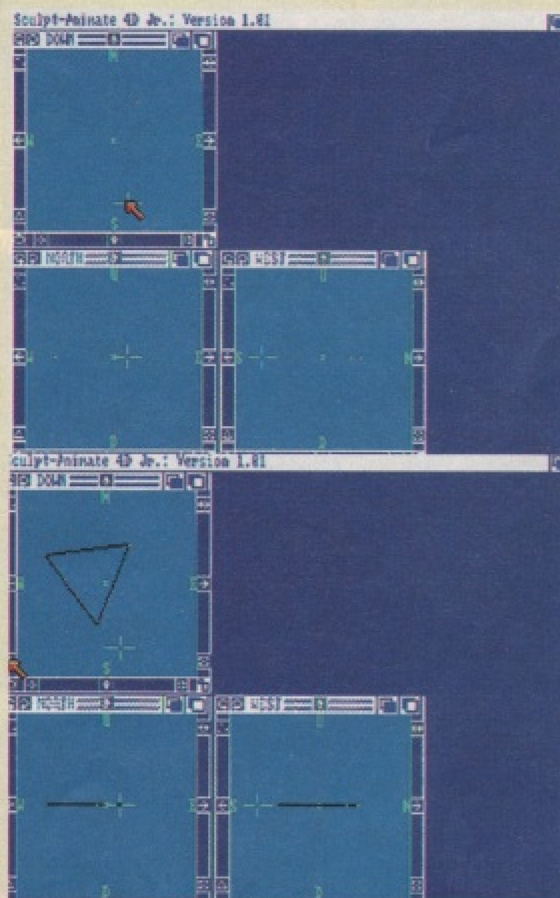


window, and the same corner will be highlighted in the other two. This makes it easier for you to place objects precisely, and no guesswork is involved.

Take some time now to experiment with the tri-views. Using the left mouse button to place the cursor in any of the three windows and watch how the cursors in the other two move to give you an exact readout of where in 3D space the cursor is. If you don't understand what it's doing, then picture a glass box with a single beam of light passing through all three sets of opposite sides. The cursor is representing the point at which the light is entering the box. When combined, these inform you of where in the box the three light beams meet. It may seem complicated, but is a very clever way of manipulating points in a 3D environment.

TOTAL PERSPECTIVE VERTEX

Before you can get drawing, you need to understand how shapes are built up. Objects are created from sets of dots, called vertices, joined together with straight lines to form edges. When three edges are joined together, they form a face, and



this is the only thing that *Sculpt* can display in 3D. Strange as it may seem, all objects have to be built from these triangular faces, and *Sculpt* won't recognise them as faces unless they are triangular. To demonstrate, let's try a simple exercise.

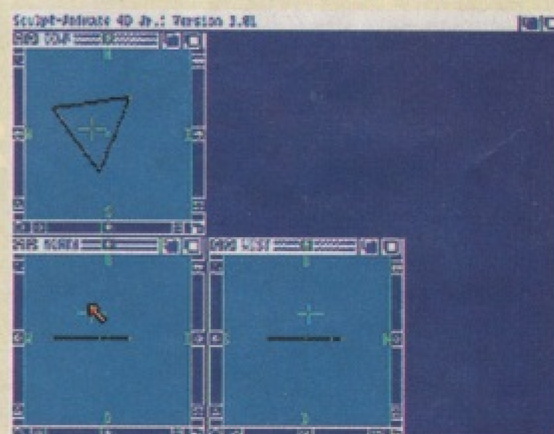
Move the cursor anywhere within the 'down' window. Hold down the left button and click once on the right to place a vertex. A small yellow dot will appear to let you know it's there. Now place another two anywhere on the same window, so the dots form a triangle. Fine, we have our three vertices. Now we have to join them. In the bottom-left corner of the window is a small triangular icon. Click on this and it will join the three points together? Congratulations, you have now made your first face.

With regard to the edging icon, it will only work if two or three vertices are highlighted (coloured yellow), thus creating one or three sides. If you find it doesn't work, then you've probably laid two vertices very close together by accidentally double clicking on the right mouse button. Redundant vertices are easily removed when necessary, but, just for now, go to the menu bar and select 'erase all', and replace your three vertices.

DEPTH CHARGING

It's now time to add some depth. Move the mouse to the centre of your triangle, and click on the mouse button to position the cursor. Take a look at the north window and you'll see that the cursor is

➤



LOADING

To load, switch off your Amiga for at least 30 seconds, to prevent the spread of Viruses. Insert your copy of *Sculpt 4D* and switch the machine back on. After a few seconds, the Workbench menu will appear, with the CU coverdisk icon loud and proud in the middle of it. Double click on the CU icon, followed by a double click on the *Sculpt 4D Junior* icon which appears a moment later. The program will now load automatically.

Before you can start tinkering with all things 4D, though, the package's manual protection must be bypassed. Inside the 24-page supplement given away with this issue is a further guide to *Sculpt*'s many intricacies. Within the eight pages dedicated to *Sculpt*, you will find a list of the protection codes necessary to enter the utility. Simply enter it and you'll be ready to roll.



Finally, to load *Powerpacker 3.0* and the demo of *V4.0*, simply double-click on the required icon, and the demo or utility will load and run within a few seconds.

COPYING YOUR CU COVERDISK

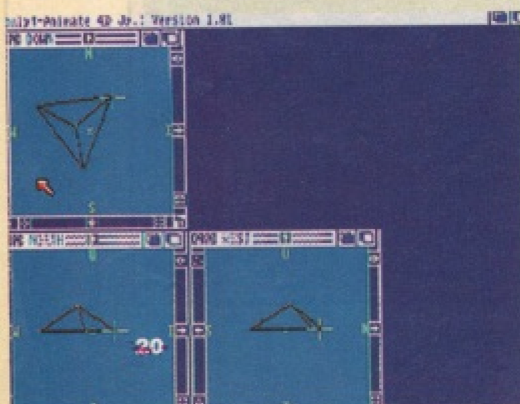
We strongly recommend you make a back-up of *Sculpt 4D Junior* before using it, as it will protect your original against accidental erasure or damage. Once copied, stash your master copy somewhere safe and work from your new back-up.

To copy the disk, you'll need a blank, formatted disk. If you don't have one, load up your version of Workbench, and then place the disk you want to format in any drive. Wait for its icon to appear, and click on this once – its colour will darken slightly indicating it is ready. Holding down the right mouse button, go to the disk menu at the top of the screen. Find the Initialise option, and release the right button on selecting it. After following the prompts to swap disks, a requester will appear asking you if it's OK to initialise the disk in DF0:. On answering yes, another window will appear, informing you that the disk is in the process of being formatted.

Once it has finished, remove the disk and insert your *Sculpt 4D Junior* disk. Click on it once to highlight it, and hold down the right button. Go to the Workbench menu and select 'Duplicate'. Follow the on-screen prompts to make a back-up of your master disk. Once the process is complete, click on the copy you made and select 'Rename' from the Workbench menu. Delete the words 'Copy of' from the disk name and you're ready to get started. Remember, once finished, put your master somewhere safe and only use your new copy.

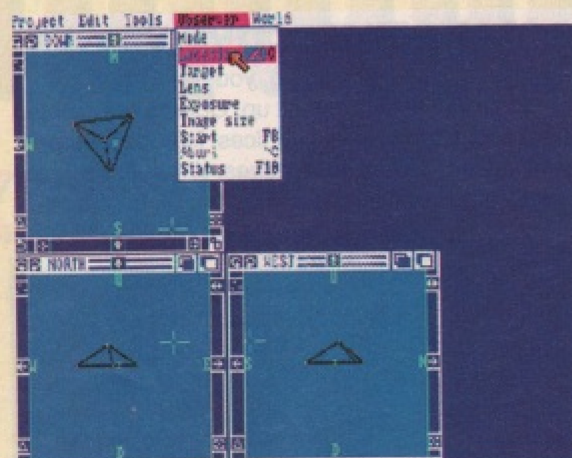
positioned in roughly the centre of the line. We're planning to make a three-sided pyramid, so position the pointer a little way above the cursor and click on the left button. Once you are satisfied with the position of the cursor, place a vertex. You're now ready to add more faces.

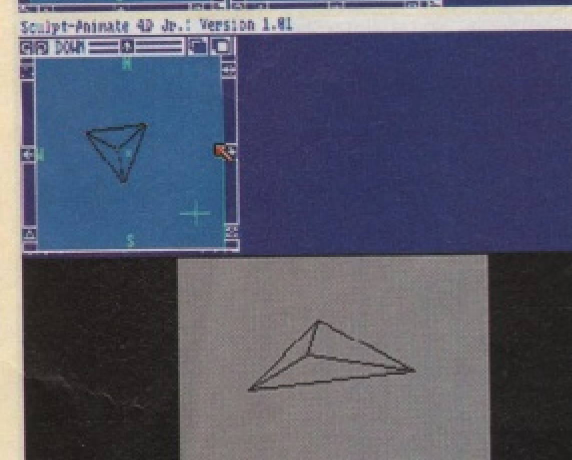
Although the edging tool is limited to three faces, at the moment there are four highlighted. To deselect a vertex, double click on it with the left mouse button. Do this with one of your triangle's corners, and click on the edging tool. Repeat this on the other two, and – voila! – there is your finished pyramid!



OBSERVING

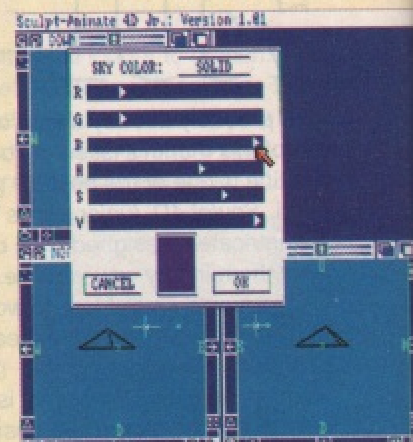
For a quick update of your work so far, move the pointer to the down window, and click in an area away from the shape, resizing the windows if necessary. Click with the left mouse button, and go to the north window to add some height. Then go to the 'Observer' menu, and drag the pointer down to your required position and release the mouse button. Go to Mode, and ensure it's in Scanline.



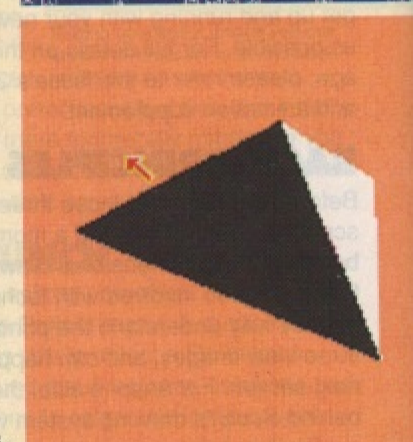




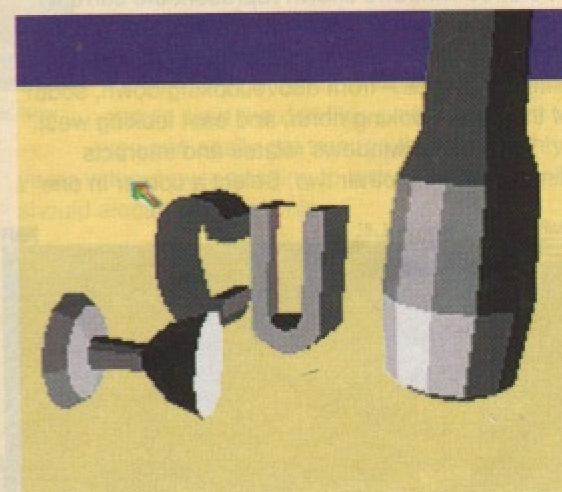
Return to the 'Observer' menu, and drag it down to start before releasing the button. If all is well, in a second or two you will see the outline of your pyramid. You can't see it properly yet, though, because it still needs to be lit. To exit the picture, place the pointer anywhere over the picture and press the left button followed by the right. The picture will now disappear only to be replaced by the tri-view screen. For the aforementioned illumination, you're going to need a lamp or two – for the most part, one will suffice, though. Position the cursor near the observer position (marked with a small 'O') and select Add Lamp from the edit menu.



For backgrounds go to the world menu. Select sky, and change the box at the top from 'None' to 'Solid' by clicking on it with the left button. I'm sure you know how to use slider bars by now, so set the colour of the sky by mixing the Red, Green and Blue bars until you reach a colour you deem suitable.



Select ground from the menu, and repeat the colouring process. Go to the observe menu and click on start to see your first 3D work of art. OK, so it isn't fabulous, but you can't deny that it was very easy. With the basics sussed, we'll move swiftly on to some of the more advanced aspects, including a look into the basics of animation. For full information, though, read the instructions in our supplement, which further explain the different icons' functions and will help you get the most from the program. In addition, the supplement's guide also expands on the basic features we have covered here.

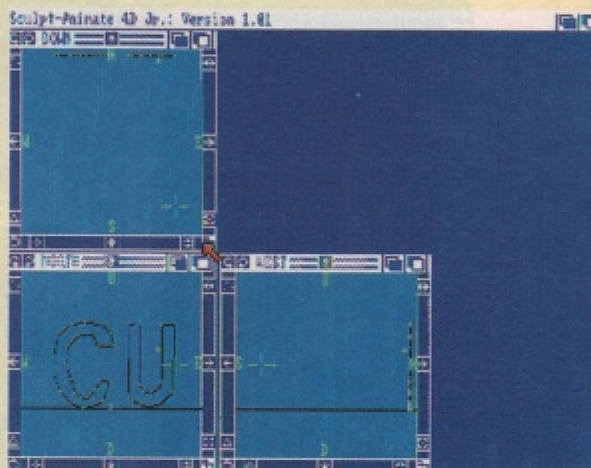


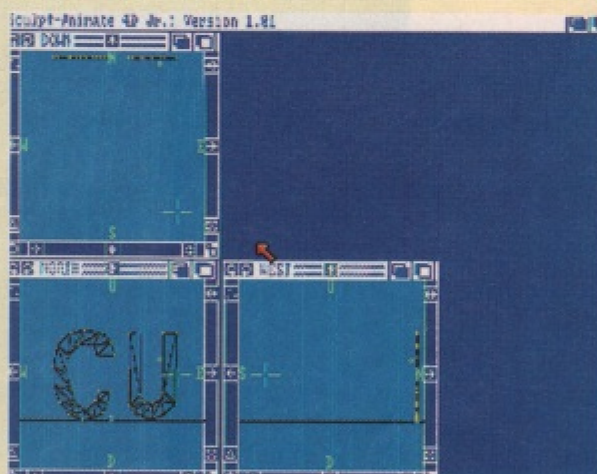
IMPORTANT! Whilst every attempt is made to ensure that the contents of the coverdisks match the details given on the labels and in the magazine, we cannot be held responsible for any last-minute changes. Also, although our disks are also checked thoroughly for viruses, we cannot be responsible for any damage caused by the contents of the disk. If you have problems regarding your disks, please DON'T call the CU Office as there's very little we can do. Instead, ring PC Wise using the number listed in the WONT LOAD? panel. Thank you.

HAVE A DRINK WITH CU

The title of this odd picture is 'Have A Drink With CU' (it should be sub-titled 'And Don't Expect Them To Pay'), and it isn't hard to understand why. Good as it may look, it didn't take a great deal of time or effort to do, and I produced this picture after a mere two hours of loading and getting to grips with *Sculpt* for the first time.

To start with, you'll need to construct the CU lettering. There are two methods with which you could do this. The first is to plot each vertex, and join the lines up one by one. Or, alternatively, you can use the curve tool, which is found in the tools menu – but make sure you are working from scratch. On selecting the curve mode, the cursor changes to indicate the mode switch. Curve allows the user to plot a vertex in the normal way, but keeping the left mouse button depressed whilst moving the pointer releases a 'rubber band' which stretches from the last plotted vertex to the cursor. Subsequent vertices then allow you to draw a plotted curve, which automatically links itself as it goes. To start the lettering, draw the outline of the letter C in the north window, and, when you close the loop, control will return to normal. Select curve again and draw the outline of the letter U.

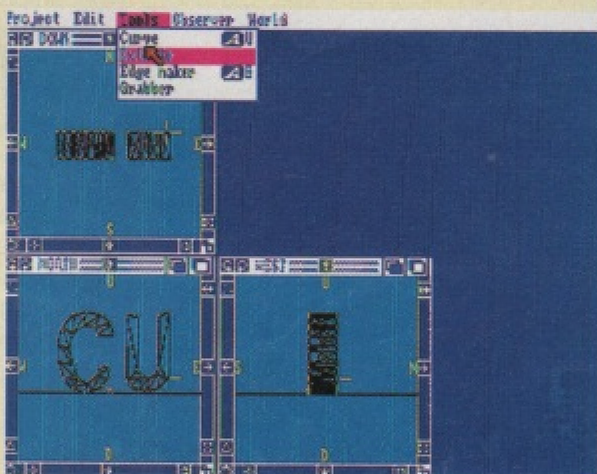


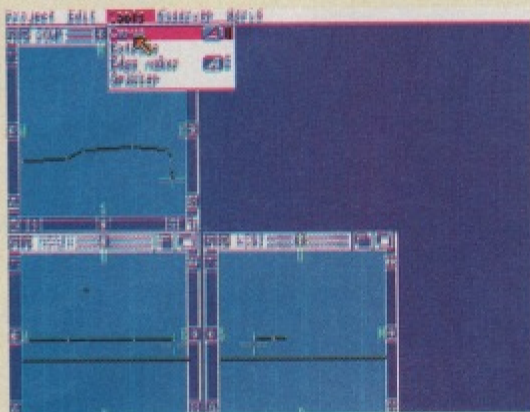


EDGING TOOL

Rendering the picture now would have no effect as there are still no faces to the letters. To rectify this, go to the tools menu, and select the edging tool. By keeping the right button depressed and using the left button to start a line, this allows you to draw the edges between two points. Work your way through the two shapes, zig-zagging through them to fill them with triangles. You now have the letters CU standing proud, but still a little flat. To fatten them up, you need the extrude tool.

Make sure all the points are selected, and click on the extrude tool's icon. After a moment's pause the cursor will change, and clicking anywhere on the down window will cause a strange effect. The reason for this is that you are placing another copy of the selected object on screen at the cursor position, and ➤

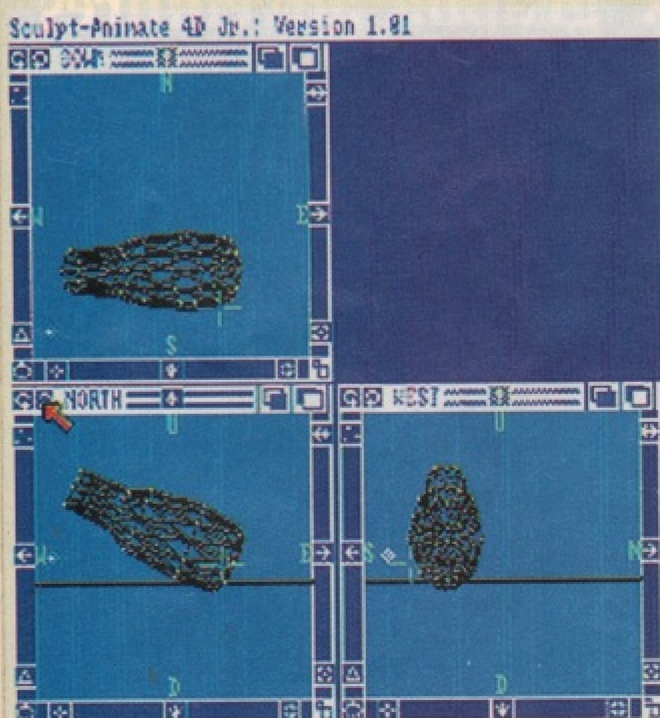




the computer is joining them with connecting edges. Move the cursor to above the original CU object and press the left button. Once you have lined it up, click the right button and you'll have your monolithic CU logo.

SPIN THE BOTTLE

The bottles and glass may look impressive, but you'll be amazed when you see how little work you need to create them. Scroll the tri-view window to the place where you want a bottle to appear and select the curve tool. Imagine the bottle had been cut into quarters along its length, and draw the line its edge would follow. Position the cursor at the centre of the base of the bottle, and select 'Do Spin' from the Edit menu. Enter '18' and '360' on the two prompt windows, and watch the program draw the bottle for you.

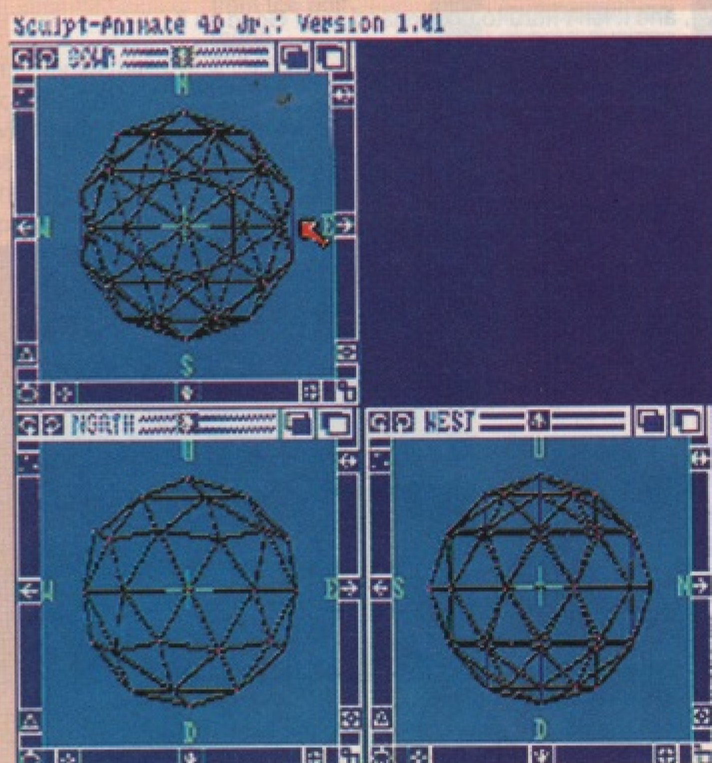


At the moment, the bottle is lying down, and it needs to be upright. Easier done than said. Scroll the tri-view windows so that the bottle is the only thing on view, and then click on the select all icon in the north window to highlight its vertices. Then use the rotate icons to turn the bottle upright. Simple. Repeat the same process for any other bottles and glasses you may want to add.

Using the same method as before, create the sky and ground. This time, however, take a look at the north and west windows. Along the middle is a straight line, denoting the ground level. Any part of an object below this won't be seen, and any object not touching it will be seen to float. To reposition an object, make sure it is the only thing shown in the windows, and select its vertices with the select all gadget. Using the grabber from the tools menu, pull the object around in either the north or west windows to place the bottom edge on the line. With the grabber, you can also move the objects closer together to improve the framing of the picture. Conversely, place the observer away from the objects, just above ground level, and place the target at the same height somewhere in the midst of your picture. Place a lamp, as before, close to the observe point to give the most light on the images – although some really great effects can be attained through unusual lighting. Now render the final image. In the meantime, as the picture is being rendered, you can muse on just how easy it was to do...

TRI VIEW WINDOW GUIDE

Dotted around each of the three windows are a large set of icons. Here's a guide of what they are and what they do:



1. Rotate Anticlockwise/ Clockwise: Rotates any selected objects around the centre of the window.

2. Front/Back: Standard Workbench icons. These deal with the positioning of this window when overlaying others.

3. Reverse View: Looks at the object from the opposite side.

4. Expand Tri-View: Look at a larger area via the tri-view

5. Shrink Tri-view: Zoom in on a smaller area

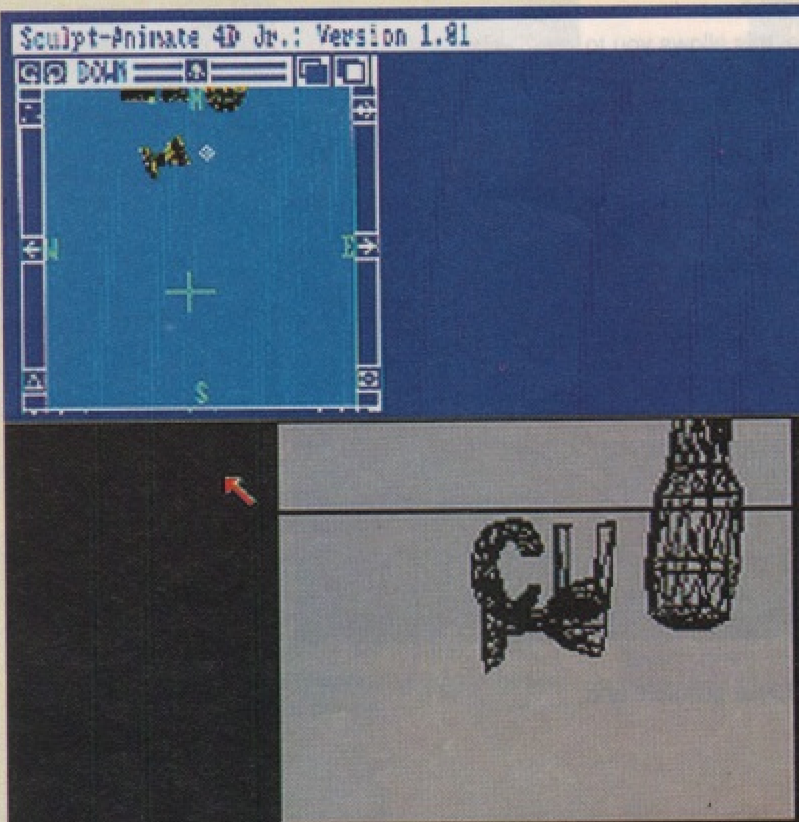
6. Centre Tri-View: Centres the tri-view window on the current cursor position

7. Grabber: Used for moving already placed vetrices. Click once to activate. Click again to deactivate.

8. Edge Builder: Click on this to connect two or three highlighted vetrices.

9. Select: Highlight all vetrices in the tri-view window. Click again to deselect.

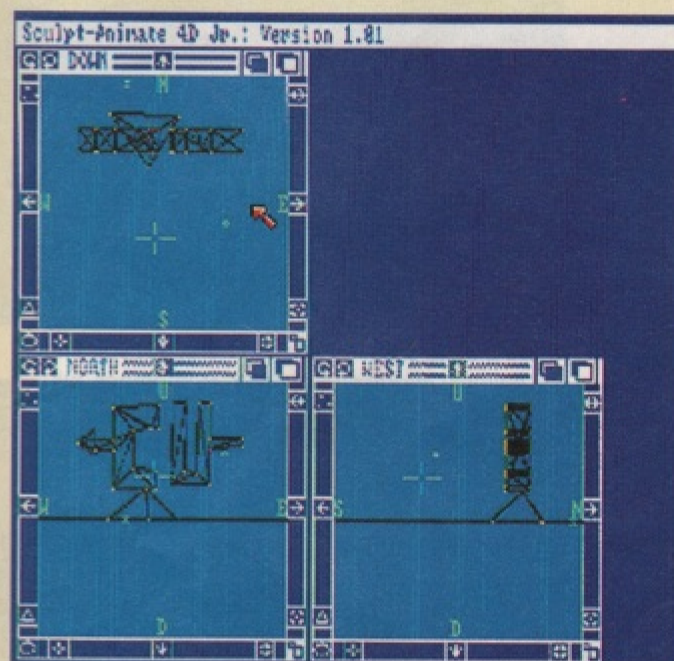
10. Move Tri-View: Scrolls the tri-view window around the main area.

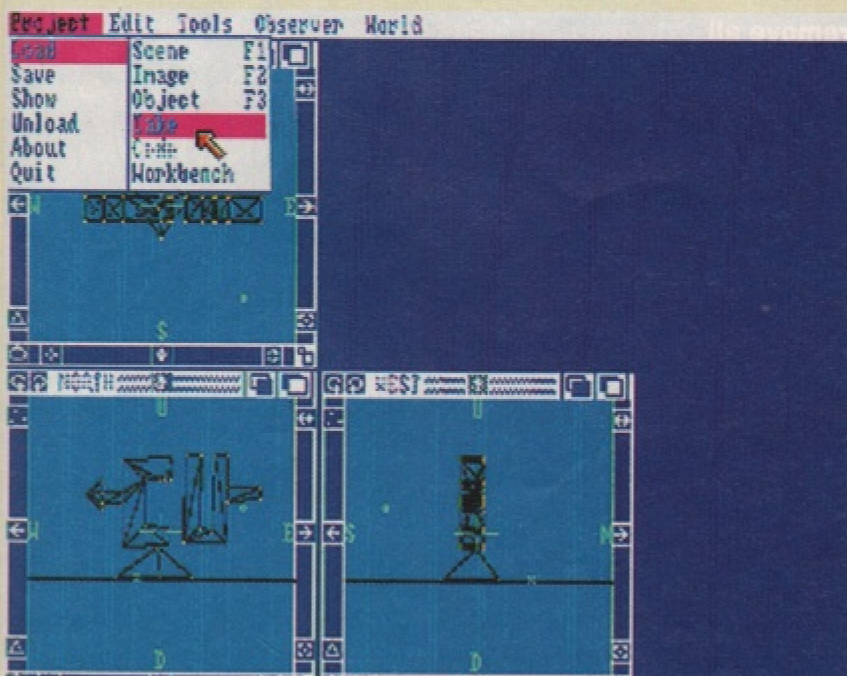


GETTING MOVING

Animation is fast becoming one of the Amiga's strongest points, particularly with packages like *DPaint IV*. *Sculpt 4D Junior* also allows you to animate, and direct mini movies with your freshly-created 3D objects. Like everything else you've seen so far, the process is very easy. *Sculpt* uses a system called Key Frames for its animation, which means that you only need enter key frames for your sequence. The computer then fills in the gap using a system called Tweening, and this saves a great deal of time. Basically, you can set, say, five points, and the Amiga will link them so that they flow smoothly into each other.

The animation we're going to produce is an eternally-spinning CU weathervane. Before the animating can begin, though, the screen must be set up. In this case, we're going to have our already-drawn CU lettering (albeit with an arrow running through them), sat atop a tall pyramid. Create the pyramid from triangles as before, and create the 3D CU lettering using the curve and extrude tools. Using the grabber, place the lettering on top of the pyramid and the pyramid on the ground. Make the middle of the CU lettering the Observe target and place the Observe position somewhere down south. Place a lamp near the observe position, and colour the scene sky and the ground. ➢

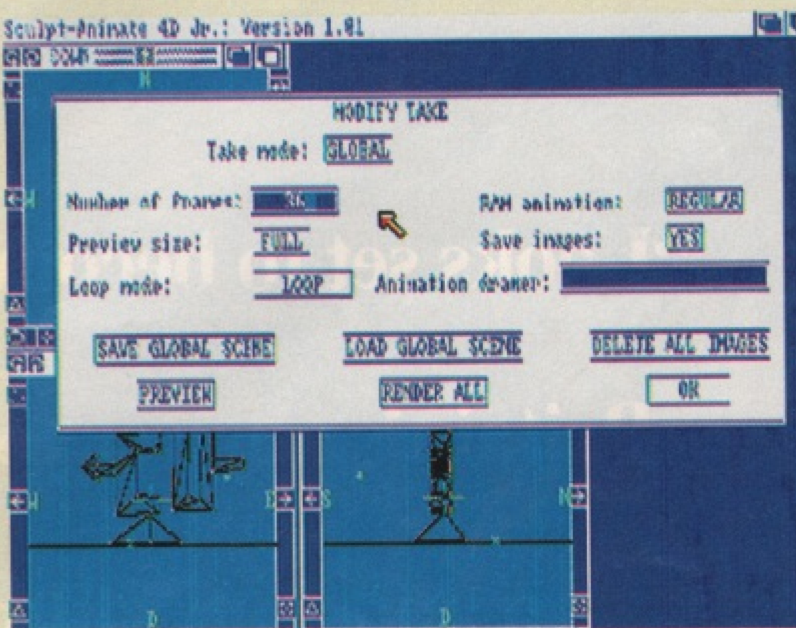


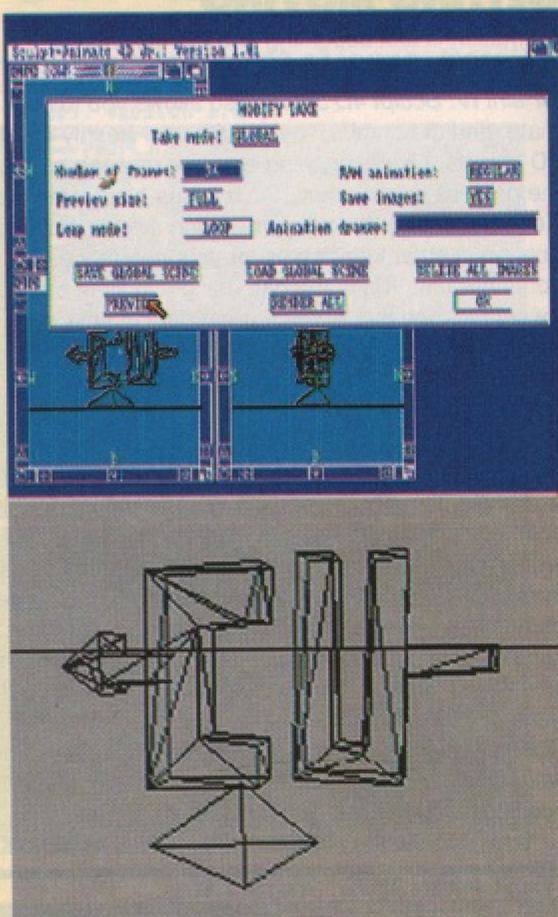


Place the cursor on the down window over the centre of the pyramid, and click on the 'Centre window' icon. Select the CU logo, and you're ready.

TAKE YOUR PIC(TURE)

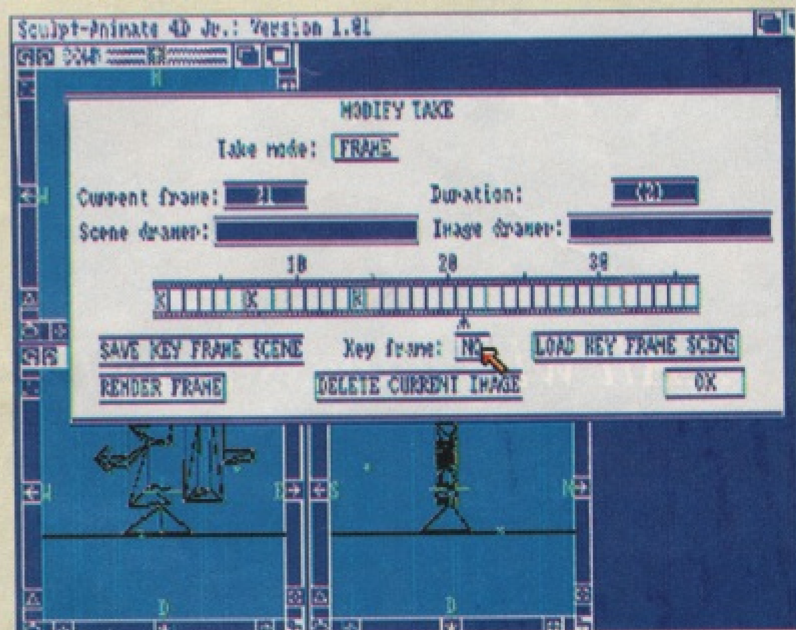
Go to the load menu, and select Load Take. Enter the save name of your new animation, and go to the Modify Take option. Under 'Number of Frames' enter 36, and click on the word 'Global' to change the window to the Frame window. We're going to enter our key frames every 6 steps from 1. Click on the first frame of the roll of film, and click on the word 'No' to make Frame 1 a key frame. Do the same for frames 7,13,19, 25, 31 and 36. Click on frame 1 again and then click on 'Save Key Frame' to store the current frame, and 'OK' to close the box. Now to work on the next key frame. As the weather vane has to rotate through 360 degrees, it has to rotate through 60 degrees for each key frame – with the exception of frame 36 in which it only has to rotate 50 degrees. If you enter the last frame, the program won't be able to complete the animation, and to rotate the vane, make sure the CU lettering is selected and click on the clockwise rotation icon 12 times. Then go back to the 'Modify Take' window and save it as the next Key Frame.





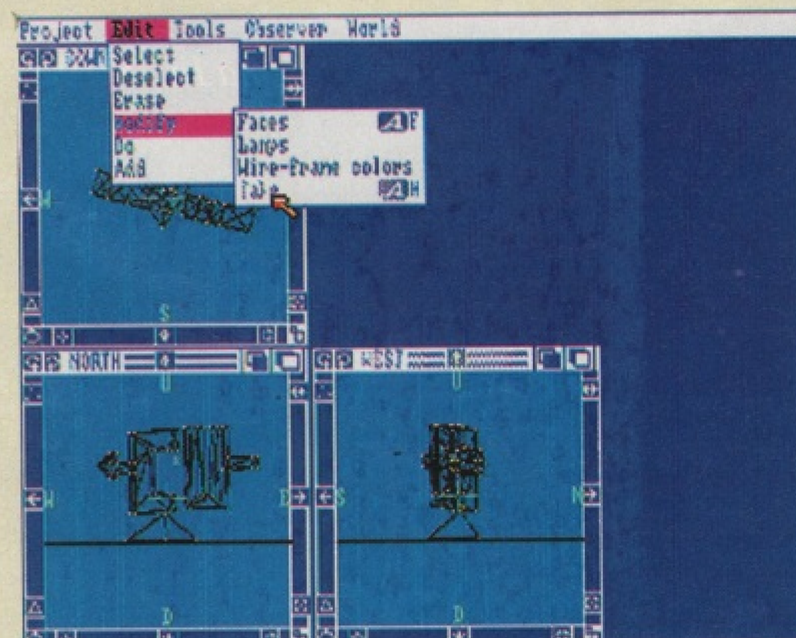
TOTALLY WIRED

Do this for each frame and return to the global window. Click on preview. After a couple of minutes, you'll be able to see a wire-frame version of your animation, which will no doubt knock you silly. If you click on 'Render All', the machine will begin the lengthy rendering process. Be warned, though, as this takes quite a while, but it is worth it for the impressive, full-colour and solid object animations it creates.



YOU'RE ON YOUR WAY

And that, as they say, is all there is to it. Obviously there's quite a bit I've missed here, but you should be suitably impressed already. Remember, full details on all the icons and further instructions to the program can be found in our supplement – Happy rendering!

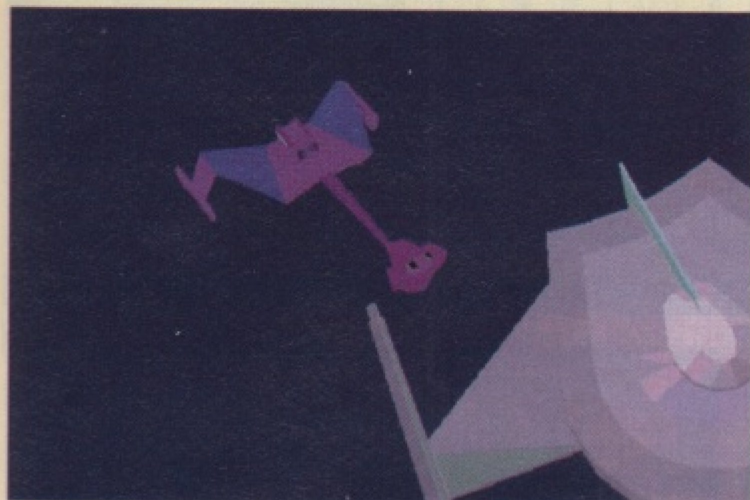


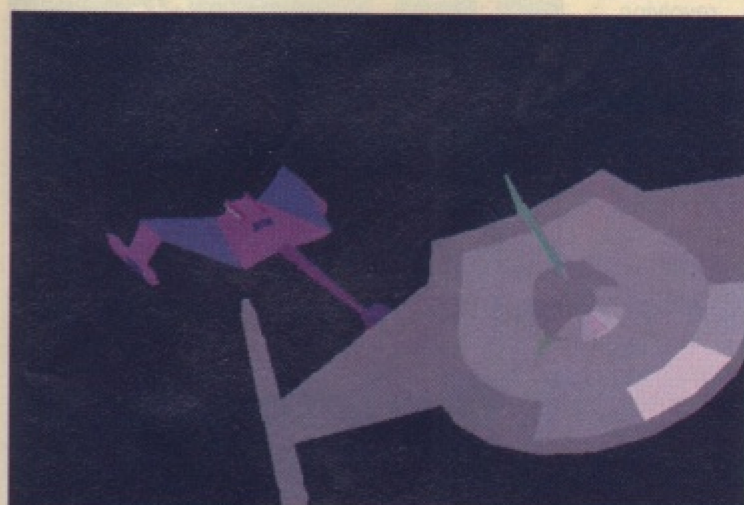
IF YOUR DISK WON'T LOAD?

In the unlikely event of one of your CU disks not loading, remove all external cartridges and peripherals and try again. If it still won't load, pop the offending disk in an envelope and address it to: CU DISK RETURNS, PC Wise, Merthyr Industrial Park, Pentreebach, Mid Glamorgan . CF48 4DR. They will then test the disk and send a replacement as soon as possible. Ring the PC Wise Helpline for any urgent problems. It's open between 10:30 and 12:30 during weekdays and can be reached on: (0443) 693233. Whilst CU Amiga makes every effort to check cover disks for all known viruses, we can accept no responsibility for possible damage caused by viruses which may have escaped our attention.

EXAMPLES

This exciting sequence was created using *Sculpt 4D Jnr*'s powerful tools.



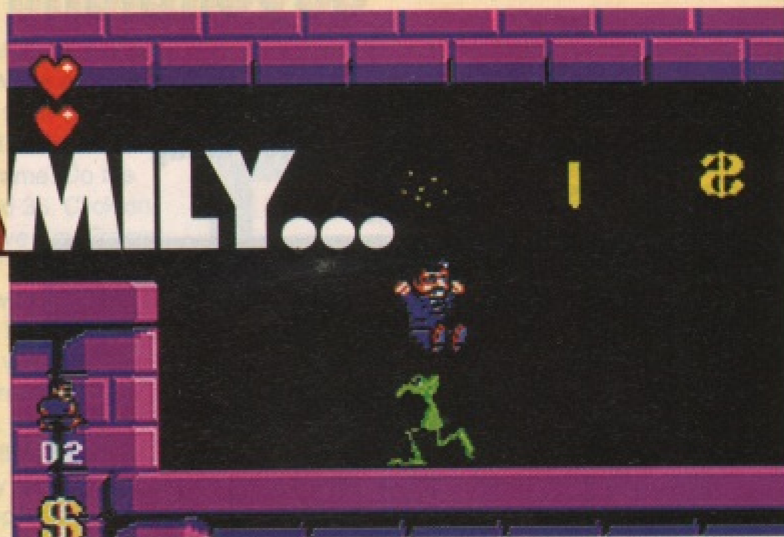






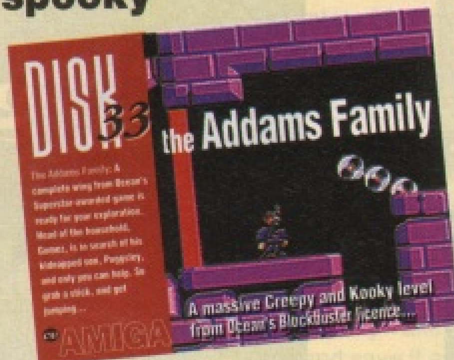
It's creepy and exclusive, It's quality condusive,
It's absolutely mahoosive...

THE ADDAMS FAMILY...



That's right, in an amazing coup, CU Amiga has trounced the competition to bring you an exclusive demo of the most eagerly-awaited game this year. So, get ready for an exploration of those ooky, spooky Addams Family...

DISK 33



Easily one of the most eagerly-awaited licences ever, *The Addams Family* scoops an almighty 95% in this month's review pages, and we are proud to bring you a complete playable level.

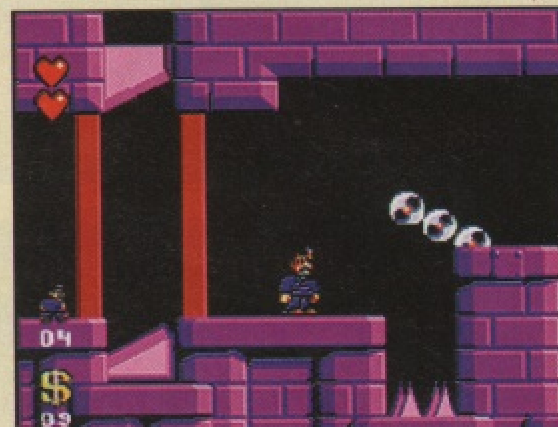
Billed as the Amiga's answer to Mario, *The Addams Family* is a massive platform romp, with the player assuming the heroic role of Gomez Addams. Owner of the massive mansion the game is set in, Gomez's family – his wife Morticia, his cranky Granny, slap-head Uncle Fester, and his children, Wednesday and Puggsley – have been kidnapped by an unscrupulous property developer who has whisked them away until Gomez hands over the deeds to his house. Obviously, Gomez is loathe to do so, and consequently he must explore his rambling property and attempt to rescue his family members from their horrible fate. Our demo features an entire wing of the five-stage building – comprising some forty screens – and is set within the house's dank and creepy dungeons and torture chambers. Somewhere within these winding catacombs is young Puggsley, but if Gomez is to locate him, he will have to run the gauntlet of the many sub-human creatures who inhabit the lower regions.

Gomez is controlled using the joystick (see panel), and can be made to run, jump, change direction mid-leap, and duck. Starting at the entrance to the level, each stage scrolls either horizontally or in the customary eight directions, keeping Gomez central at all times. As progress is made through the dungeon, the screen layouts get rapidly more tortuous with the nasty-laden platforms giving way to revolving axes, guillotines, and spiked traps.

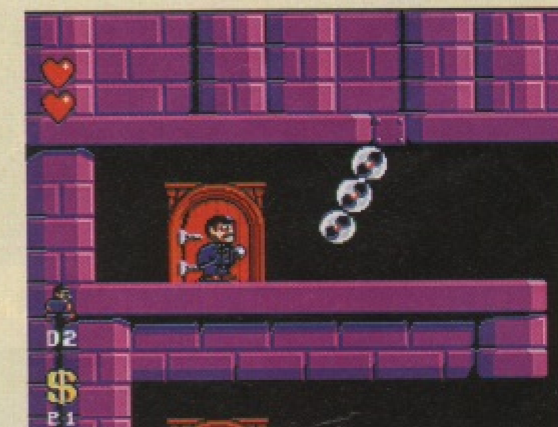
Additionally, the creature and obstacle content is similarly stepped up, and this paves the way to a final confrontation with the 'Boss' creature who is presiding over Puggsley.

Obviously, the odds are stacked against the diminutive Gomez, and the success of his rescue missions depends on his health. Displayed to the left-hand side of the screen are a series of hearts, and these depict our hero's health. On contact with any of the nasties, these are gradually drained and should his back-up supply of lives be fully depleted, the mission is prematurely ended. This means that the house will become rubble and, eventually, a car park – 'Game Over', effectively.

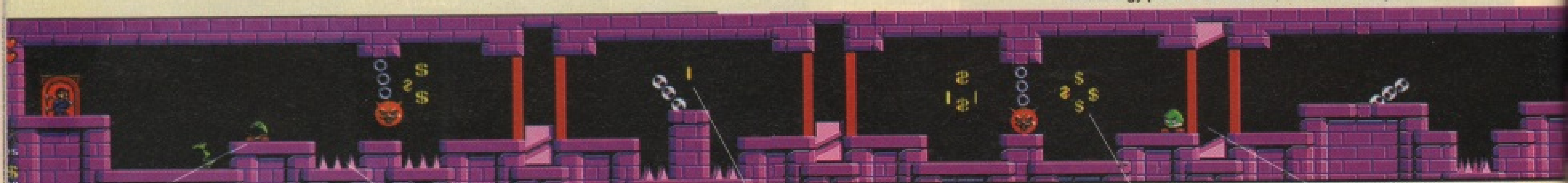
It's not all bad, though. Dotted across the levels are a series of odd-looking devices and objects which can be used to aid Gomez's progress. The first is a flashing ball which grants our hero with temporary invulnerability, and is indicated by a sparkling trail which follows in his wake, and the second is the 'Fez-Copter'. This unusual device is a Tommy Cooper-style hat with flying capabilities and can be found circling the ceiling in certain rooms. If Gomez leaps up at the circling Fez, it attaches itself to his head and allows him to fly past particularly tricky areas. By repeatedly pushing up on the joystick, Gomez's flightpath can be extended, but it will eventually expire, and Gomez will be back to using Shank's Pony (ie. walking). Also scattered throughout the house is part of the


When Gomez is hit, he will be temporarily invincible. He flashes to indicate this, so use the time to dodge any hazardous areas.


The swinging 'Space Hoppers' can be jumped over or ducked. As you get further into the dungeon, they speed up, though.


Each hit from a nasty or a swinging obstacles relieves Gomez of one energy point. One more hit, and he's history...

Loading Your Demo... To load your demo, simply insert the disk into DF0: and it will auto-boot. If it fails to do so, then turn your machine off and remove any extra drives, printers or cartridges, and try again. The demo works on any expanded or unexpanded machines, but if it still fails to load, pop it in an envelope and send it to the usual PC Wise address which can be found elsewhere in this section.


These critters jump up and down spitting axes at regular intervals.
Spikes are generally lethal, but Gomez can survive for a period.
Buzzsaws swing round at regular stages – avoid at all costs!
Twenty-five Dollars awards Gomez an extra health point.
The beautiful but fatal Madame Guillotine – don't lose your head...





Located somewhere between corridors is a bonus-laden chamber awaiting plundering.

Monster Mash Although most of the nasties are extremely hazardous and best avoided, Gomez can often use them to his advantage. The cannons, for instance, fire a regular pattern of shots and, with perfect timing and positioning, Gomez can jump into the path of an oncoming cannonball and bounce off it to reach any cash or bonuses that may have been previously inaccessible. Unfortunately, there are also several creatures who are readily equipped to deal with your back-breaking antics. These are often armed with spikes and, should Gomez try and squash them, they will reward his efforts with a spike up the jacksy. Firepower or running over them whilst invulnerable is the only way to deal with these – either that or stay well clear...

Family's vast wealth, and Gomez can trade in any collected money for much-needed health points. Shown as Dollar signs, on collecting twenty-five of these, Gomez is rewarded with an extra energy unit, whilst one hundred grants him with an extra life.

The mission is over when Gomez has bounced the 'Boss' creature to death and Puggsley is free. You will then be given a password which is compatible

Controlling Gomez

Up – Jump higher, ascend when using Fez Copter

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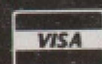
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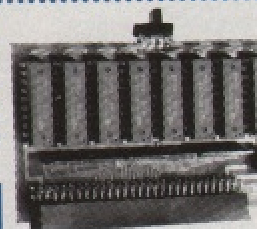
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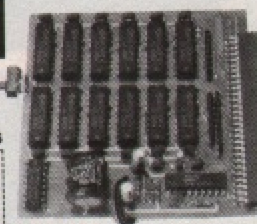
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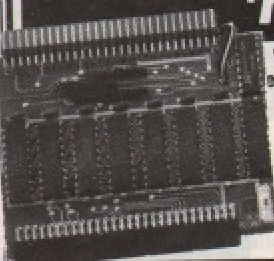
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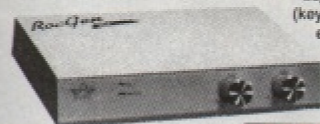
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the ultimate amiga

A lot of people say that the Amiga is not in fact the all-out, up-front King of all machines. 'Ha', they say, 'my PC486 with SuperVGA is much nicer'. That may be true, but what you have with an Amiga is a system based around 80s technology, not 70s. The Amiga has the ability to metamorphose into an even more stunning beast and it does this better and at a lower price than any Mac or IBM system.

Having bought an Amiga you have automatically become a member of an exclusive club. It's not a club run by business, nor by the company who manufactured your machine – it's not even run by the software houses that support the machine. The club is run by Amiga users – all of them. It stretches from the bizarre fringes where coders stay up late for weeks to bring you a demo, to the more mainstream user who just enjoys using his A500. The Amiga binds people together – it is a machine with community spirit.

Nobody is suggesting that some people don't buy Amigas mainly to play games, but it is very short-sighted to believe that they don't use their machine for anything else.

In fact, it's what makes the Amiga such a great games machine that enables it to perform so well in other fields. The graphics capabilities have opened up the realms of DTV and DTP; the stunning sound makes it excellent for music and multimedia applications; and it's versatility in emulating the Mac or PC makes it an ideal candidate for networking. Just because someone buys an FST Trinitron Super-Surround Sound TV to watch sports programmes on, it doesn't mean they won't occasionally enjoy Red Dwarf, too. People who say that the Amiga is only good for playing games are generally people who have bought PCs and are a bit upset because they've found that, say, an Amstrad 1512 is not very good for playing games on.

Yes, the Amiga has it's detractors. Once upon a time, it was compared to the ST. These days, it is compared to more professional systems. The Amiga is fighting the age old battle of innovation versus establishment – the new blood versus the old. It can only be a matter of time.

While we're waiting, as a spot of entertainment, we'll take a look at some kit that equals or beats anything available on any home computer. Prepare yourselves for the ultimate doombringer – the mother of all Amigas...

the ultimate amiga

The Ultimate Set Up... A selection of the hardware and software which help make the Amiga great.

1 A3000

At the moment this is still the hottest Amiga you can buy. Running on an '030 chip with a '82 math coprocessor this baby is fast. 2Mb of chip RAM and a built-in flicker-fixer puts paid to any worries about graphical ability. Its small size means you can legitimately include it as a part of any 'desktop' solution.

2 MONITOR

The Amiga's custom multisync monitor can handle all of your graphic requirements, even the new productivity and super hi-res modes. The idea of a multisync is that it can 'tune in' to the frequency of your display so that enhanced video modes, such as interlace, will appear as stable as a normal lo-res screen.

3 SOUND ENHANCER

Omega Project's sound enhancer is an excellent unit if you care about your ears. Essentially, it does what Commodore's filter should have done. Everyone knows that to listen to music properly you have to turn the filter off (usually accompanied by the power light), or it sounds like it's being played through an old sock (the 'Socks and Rugs, and Knock and Dole' syndrome). The Sound Enhancer lifts and separates, leaving the treble to shatter glass and the bass to shift furniture, just as nature intended.

4 GRAPHICS TABLET

The ability to draw is a great gift. The ability to draw using a mouse as your input device is a miracle. That is why most artists prefer to use a graphics tablet. The genius tablet is particularly excellent as it comes with a ready made template for *DPaint*. Other systems are available to give puck control or a wider pad for more specific tasks.

5 PRINTER

The printers supported by the Amiga are generally the same as those supported by any other computer. You could even drive a linotronic film processor direct from the Amiga given the right software.



6 SCSI DRIVE

The ability to connect SCSI units to the Amiga (via a suitable interface supplied with most hard drives) means that users can take advantage of the vast range of devices initially intended for Mac and PC machines. Hard Drives, Optical Drives, Tape Streamers and Scanners are all out there waiting for you.

7 GRAPHICS Board

The *Harlequin* spits on the PC's Super VGA mode. It's a 32-bit card capable of displaying 24-bit images with enough bits left over to provide syncs for chromakeying and other effects. There are many other 24-bit framestore cards for the Amiga but unfortunately there is no standard as of yet.

8 SAMPLER

The *SunRize* samplers haven't made it to the UK yet. These promise 16-bit sampling capability. At present, the best 8-bit sampler on the Amiga is *Audio Engineer*, but Microdeal's *AMAS* combines an 8-bit sampler and a MIDI interface.

9 MUSIC

The Amiga may not yet be the musician's first choice for a studio setup but there is a large amount of professional software available. The KCS Sequencer 3.5 is generally regarded to be the best available on any home computer. The lack of built-in MIDI ports may have held back the Amiga initially but they are so commonplace and cheap these days that it is no longer seen as a serious obstacle.

10 PROGRAMMING LANGUAGES

Almost all popular available languages are available on the Amiga, especially if you use a PC bridgeboard. Assembly language is the first choice of crack programmers and the Amiga is well represented here by Hisoft's *Devpack*. The Amiga is becoming better known as a developer's machine because it's multi-tasking ability allows for easier debugging.

11 GRAPHICS

Graphic applicatons are definitely the realm of the Amiga. Not only is it possible to create stunning artwork with packages like *DPaint IV* and *TV Paint*, it is also incredibly easy (as Rolf Harris has proved on his shows)

12 DTP SYSTEMS

No major publishing house in this country is using th Amiga yet, but in North America several projects have been set up. The much-missed Amigo Times was produced entirely on the Amiga. DTP on the Amiga is catching up with Mac systems thanks to an excellent range of products like *Professional Page* and *Pagesetter II* from Gold Disk.

13 MULTIMEDIA

Given its ability to multitask and the astounding graphics and sound capabilities of even a bog-standard Amiga, it certainly ought to be first choice when it comes to multimedia. There are quite a number of good packages available such as *AmigaVision* and *Showmaker*.



IN ADDITION...

With so many extras available, it's hard to know what to buy. CU Amiga aims to help with the definitive guide to the top accessories for your Amiga...



A reasonably professional set up can be constructed for very little. Here, a stock A500Plus is joined by a Fujitsu B200 printer, a Philips monitor, and a selection of PD Software – the whole bundle comes in at just over £1000.

HARD DRIVES

Once you have a SCSI controller you can attach virtually any Hard Drive you like. Most drive manufacturers produce a SCSI system, including Quantum, who are generally regarded as the best. Call Almathera Systems on 081 683 6418. SCSI devices also include Optical Drives and other methods of mass storage. The IBM unit pictured here is available from Power computing, Unit 8, Railton Road, Woburn Road. Industrial Estate, Kempston, Bedford MK42 7PN (Tel: 0234 843388)

SAMPLERS

Apart form the *SunRize*, the best samplers are *The Audio Engineer* and *AMAS*, the latter of which incorporates a MIDI interface. This is particularly useful for musicians with other MIDI equipment – velocity-sensitive keyboards and synth modules, for example. Suppliers Microdeal can be found on 0726 680020.

24-BIT CARDS

At the moment, the *Harlequin Plus* board is one of the best 24-bit graphics card available on any system, let alone the Amiga. Features like real-time gamma correction, 4-bit overlays, colour-cycling and 15-bit true colour make it the only choice for professionals. Creators, Amiga Centre Scotland, have recently moved, and their new number is 089 687583. Other contenders include the GVP IV 24 (try contacting Omega Projects on 0925 763946) and, of course, the considerably cheaper *DCTV* from Digital Creations.

PRINTERS

Printers are fairly generic, although you may have trouble finding a driver to act as a go-between between it and your machine. At the high end of the market, a colour Postscript machine (one that you can actually fit on your desktop) – such as the NEC Colormate PS – is hard to beat. But then again, at a rather large £8300 it would have to be.

A sensible laser printer like the Canon LBP-4 (which can be picked up for around the £1000 mark) will provide you with reliable output. For the more financially challenged, a slightly less robust Bubblejet should suffice. The Fujitsu B200 is a good bet, so give them a call on 081 5734444. Finally, at the really cheap end, you can't beat a Star or a Citizen.

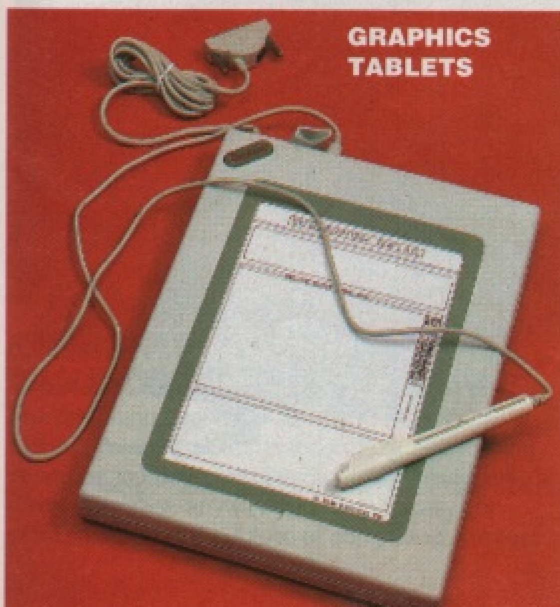


CANON LBP4

SCANNERS

The Sharp Jx300 is the nicest in full-colour A4 scanners with suitable software for the Amiga. It's smaller relative, the Jx100, is excellent if you won't need to scan anything larger than a colour print. Both are available from Silica (081 309 1111).

Similarly, if you are looking for a black and white hand scanner, they don't come any better than the new model just released by Power. Call them on 0234 843388 for more information.



GRAPHICS TABLETS



A3000

DIGITISERS

Rombo's *Vidi* unit used to be the best grabber/digitiser at any price. Now, however, there are more contenders – especially in the ever-growing 24-bit range. Marcam (0604 700466) produce some pretty impressive cards, and hot in from Germany is *V-Lab*, which promises to knock the 24-bit spots off everything currently available.

GRAPHICS TABLETS

The Genius Tablet from Datel offers 1000dpi resolution and comes complete with mouse replacement software for £129.99 – it certainly makes life a great deal easier. Datel also deal with other more bizarre methods of control. Call them on 0782 744707.

THE EARLY

Everyone must know by now that Commodore is the name behind the Amiga, but it wasn't always that way. We chart the history of the world's greatest home computer from when it was just a twinkle on it's designer's monitor to the present day.

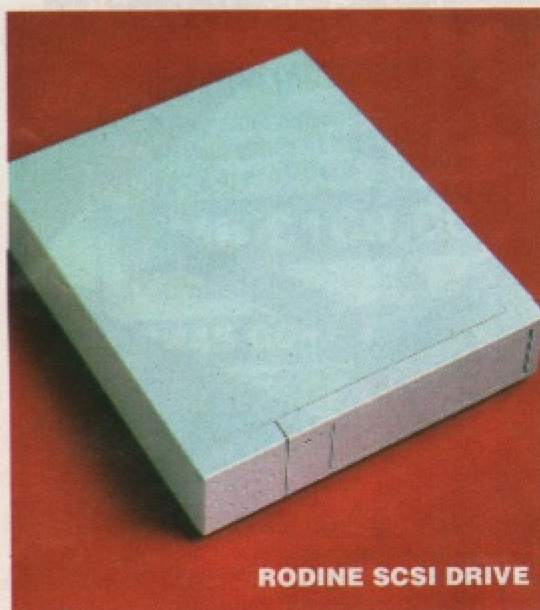
DTP

There's still nothing to top *ProPage*, which is now in it's third incarnation. Full ARexx support, Compugraphic and Adobe font handling, advanced layout features and unrivalled display options make this package the professional's first choice.

On the cheaper side of things, *Pagesetter II* is worth looking at. Don't be fooled into plumping for the old and outdated 1.4 Version, as *V.II* is a serious package which can handle almost all of the features available in *ProPage*, with the notable exception of colour output. Finally, a PD package is promised soon from 17-Bit

SPREADSHEETS

Gold Disk have this area sewn up with their amazing *Professional Calc* package. Not only does it handle over 130 functions but it also includes Arexx support and a hotlink to *PPage*. Gold Disk software is available from many outlets but try Precision Distribution (081 5433500). Also worth a mention is *Finance Manager 2*. It's not exactly a Spreadsheet, but a useful personal account manager nevertheless. Try Microdeal on 0726 680020



RODINE SCSI DRIVE

GRAPHICS

DPaint IV from Electronic Arts is the benchmark for all Amiga art packages. Most compilation packs carry an older version, but *IV* can handle HAM images and is also capable of performing tricks that other packages can only dream of – as a result, the competition for *DPaint* is scarce. Electronic Arts are on 0753 549442.

MUSIC

KCS Sequencer 3.5 is quite simply the best you can get. Although a lot of MIDI software has been released for the ST (which features more heavily in studios than the Amiga), this packaged has been judged by experts to be better than any of its competition. *KCS* is £279 from Zone Distribution, a professional organisation which caters exclusively to musicians. They may also be able to help you chose a system to suit your needs. Call 081 766 6564.



First and last. Above, the new A600. The Amiga for tomorrow has come a long way from the original A1000 (below), although some would argue that it hasn't progressed enough. However, it's nice that the A600 can be bought with a hard drive already installed.



AMERICAN PIE...

The Amiga started life in true American Dream style. Back in 1982, a group of designers left Atari and headed west to Silicon Valley. Partially funded by independent investors, they started up a business called Hi-Torro, whose aim was apparently to break new ground in joystick manufacture. Overtaken by the paranoia that rules the computer industry, whilst the rest of the companies thought they were fiddling with microswitches, secretly they were making their plans for a new, amazingly advanced computer.

Their plans involved a highly innovative machine, code-named Lorraine. Jay Miner (who had helped develop the Atari 800) and the rest of the team planned to develop the ultimate, no compromise games console. Unfortunately, as the project neared completion, it looked like the bottom was dropping out of the home games market. The future for all games machines looked bleak, never mind one that was still in production. Investors started getting the jitters and bailing out before what seemed to be inevitable happened. Silicon Valley had woken up to the crash and burn syndrome and few people were betting their money on notoriously unreliable techno-junkies who promised

YEARS

a whole new concept in hardware.

At this time, the prototype was nearly finished. The hardware was ready to roll but, unfortunately, the wonder machine still lacked an Operating System. Hi-Torro didn't reckon anyone would buy their machine just to look at the circuit board, so they scraped together whatever spare cash they could and tried to find someone who could knock out something. In the end they got more than they bargained for.

The job eventually went to a British firm, Metacomco. Tim King and his team based the prototype AmigaDOS on a little known multi-tasking operating system Tripos, originally intended for mainframe systems. This visionary effort made the Amiga the first true multi-tasking home computer and probably saved the entire future of the Amiga. With AmigaDOS, all the technology that had been developed to make a great games console was now provided with the means to become a tool for more serious applications.

THE FIRST GLIMPSE

Amiga, as the company was now called, displayed their first machine at the Consumer Electronics Show in January 1984. In those days, the insides were just a collection of boards crudely wired together and the Kickstart ROM had to be loaded in off floppy. It was undeniably a prototype, but people started getting very interested. The backers were interested enough to put up some more cash, allowing the further development.

Soon the collection of boards became custom chips – Paula, Agnus and Denise, collectively called the PAD. But by now the sharks were circling. There was only one way to go – public. A share offer was set up with an opening price of $2.

One interested party was Jack Tramiel, freshly-arrived at Atari after defecting from Commodore (and leaving them with some unpleasant tax problems). Thinking he had Amiga over a barrel, he offered around $1.60. Amiga were starting to get a bit desperate, so they decided to accept the offer. This got Tramiel thinking. Never one to miss a bargain he dropped his offer again. Then a very strange thing happened.

In some bizarre Twilight Zone experience, Commodore did something rather intelligent. Whether their motives were actually based on some amazing foresight or just a desire to get back at their former MD will probably never be known, but at the eleventh hour they stepped in and doubled the original offer to $4 per share.

It was a price that couldn't be sniffed at but, amazingly, it was. Amiga added an extra 25 cents to the price. Commodore were a little surprised at this, but, after a bit of thinking, they decided to cough up.

COMMODORE TAKE CHARGE

The first thing they did was spend even more money, paying off outstanding debts and closing down the joystick part of Amiga (which was only a cover operation anyway and hadn't really contributed much to the future of computing – unless you think that a surfboard controller is any great contribution to the future of mankind). In fact, the boys at Commodore decided to set up a whole new department, Commodore-Amiga, to deal with all future development of the product.

When the A1000 was formally launched in Chicago mid-1985, Commodore laid on a spectacular glitzy launch featuring Debbie Harry and Andy Warhol. The industry was a little surprised at all this glitter – it was just another computer, after all – but there was a spirit of adventure about the Amiga project, similar in some ways to the atmosphere at Apple in the early days.

Initially, the A1000 was left behind in the 16-bit surge. Atari came up with the ST which, unbelievably in these enlightened times, was considered to be the future of home computers. The A1000, some cruelly alluded, was named after it's price tag – a hefty grand. It also had an undeserved reputation of being difficult to use. Many developers shied away, though MicroIllusions and Electronic Arts jumped on-board fairly quickly.

The future of the Amiga again looked in jeopardy. The market claimed the price was too high, Commodore responded that technology that good was worth paying for. Then, in 1986, an entry-level machine was introduced – the A500. Although ostensibly a smaller version of the A1000, the A500 had been greatly improved. The circuitry had undergone a massive overhaul and new expansion possibilities had been created. The A500 put the Amiga on the map.

Still more expensive (but only just) than the ST, the A500 drew on the cult following that the A1000 had built up. Since software houses had been reluctant to come up with the goods, the dedicated users had taken it into their own hands to demonstrate the power of their machine – Amiga PD was born. This made people realse that, in the end, the best was worth paying that little bit extra for.

The A500 was shortly followed by the A2000, a much more expandable and professionally orientated machine that Commodore rather hoped would capture some niche market, as Apple had done with DTP. It did catch on to a degree in the world of Desktop Video, but not really enough to make the world take notice.

A DECADE OF LAUNCHES

In May 1990, after months of secrecy and denial, the A3000 was launched. This always seemed to be something peculiar to Commodore. In fact, they denied the existence of this beast at 10.30am on the day before officially launching it at 11.00am. The new machine was set to conquer the world, building on DTV and capturing the undiscovered country, Multimedia, and aided by it's faster 68030 processor and radically updated Workbench. Well, the fight is still on, but the A3000 hasn't been the success that everyone wanted it to be at the time.

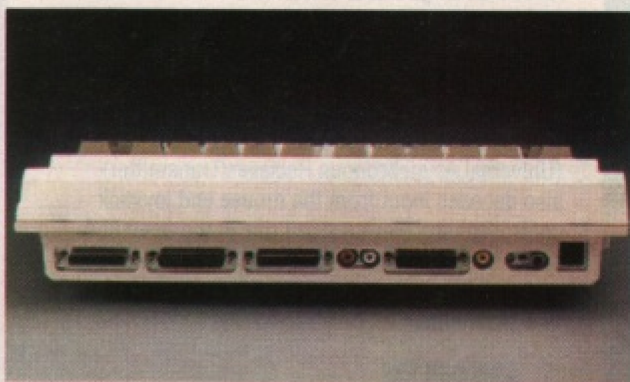
September 1990 saw the arrival in the UK of the 3000UX, a Unix-compatible machine which finally enabled Commodore to claim the A3000 was a graphics workstation. Also on display was the A3500UX, a tower system boasting even more expansion slots, and the power needed to run a network. The A1500 also popped up, but it was just a cosmetic exercise to bridge the gap between the A500 and the A2000. Essentially, it is a 2000 without a hard drive but with an extra floppy. No marks for innovation.

Where was all the research and development going? On the CDTV (Commodore Dynamic Total Vision). Commodore were racing ahead with all they could muster to bring out a CD-based home entertainment/education system before the CD-I conglomerate got their act together. The 'Baby' was shown a long time before it was sold. A lot of extra features were added to what was basically just an Amiga (although Commodore were initially rather loathe to point this out).

Last Christmas, sales of A500s forced Commodore to release the A500Plus. At last, Workbench 2.0 had made it to the lower end of the market and brought the Enhanced Chip Set with it. The new screen modes and preinstalled 1Mb Chip RAM made the machine very popular although the A500 is still on sale. A minor scare was started when it was discovered that certain software (most of it games or PD releases) wouldn't run on the new machine. To be fair, this was not Commodore's fault – all the programs which didn't work were using illegal instructions and direct hits on the ROM (which had obviously changed).

Since then, there has been much controversy over the fabled CD ROM drive, much of it over the name – A570 or A690? Nomenclature aside, the unit, proudly announced in other magazines, has spectacularly failed to appear. Commodore blame technical problems; compatibility amongst them. For a start, at the moment it does not have a through-port, so hard drive users are out of luck.

Our history catches up with the present day at ECTS, where CBM launched the A600. This is a restyled A500Plus featuring ECS and 1Mb of Chip Ram, but also has a built in modulator and sports a smart card slot. Some models will be available with internal hard drives, which in no way makes up for the lack of an expansion port – that's right, there may be a bit of a compatibility problem with the A690 there. Also amongst the 'enhancements' are a redesigned trapdoor slot. How Commodore can call this innovative is a mystery, especially since the A600 seems to be nothing more than a slightly modified CDTV motherboard in a restyled A500 box with a nice £399 price tag slapped on the front. This lack of advance can only mean that once again R&D are working on something else. But what...



Head and shoulders of the A600. Although sporting a cartridge slot, it seems to be missing an expansion port – oh dear...



Whilst the outside cases of successive Amigas have undergone redesigns, the insides have remained more or less the same until recently. Here is our guide to the bits that matter...

INSIDE O

1 AGNUS

This chip's name is derived from its function as an address generator. Provided with a 28 MHz clock, this chip provides all the system clocks for the rest of the Amiga. It also controls the 25 DMA channels which allow the other custom chips to access 'graphics' or 'chip' memory while the main CPU isn't looking.

Agnus is perhaps best known as the home of the blitter (a customised data mover which provides hardware lines, fills and software sprites) and the copper. The copper is a coprocessor which executes a display control program every 25th of a second, allowing palletes and screen modes to be changed dynamicaly. The copper is the secret behind interlace mode.

The original 8370 Agnus has now been updated twice, first to the 8372A (or fatter Agnus) and now to the 8372B which can handle up to 2Mb of Chip RAM. The Agnus is always easy to recognise because (at least so far) it is the only PLC chip on the motherboard (the funny sqaure one).

2 PAULA

All of the Amiga's sound capabilities are encased in this little 48-legged piece of plastic. 4 voices of 8-bit amplitude modulation sound combine to a stereo sound output. By combination the AM sources can be combined to a simulated frequency modulated signal for effects. The on-board UART (Universal Asynchronous Reciever/Transmitter) also decodes input from the mouse and joystick controllers and plays a small role in the operation of the floppy drive. The Paula chip is number 8364 and so far has not been updated since its original PAD inception.

3 DENISE

Denise is short for Display Enable (they were obviously a bit dyslexic at Hi Torro) which neatly sums up what this chip does. All the screen modes are created and organised by this chip as are the hardware sprites.

The original Denise was numbered 8362 but the latest version on the A3000 and later models is the 8373. The main difference is that a few more display modes are available including super hi-res and productivity.

4 GARY

Gary is a jumped up control chip. It is his job to handle the bus control and all the address decoding (which is why on some early RAM upgrades this chip had to be replaced or altered). Amongst the diverse tasks this chip must perform are controlling the floppy drive and providing the flashing grey colours on boot-up. The Gary is numbered 5719 and has stayed constant throughout the machine's development.



5 68000

The microprocessor is what makes it all happen. This Motorola-designed chip is looking a bit long in the tooth these days, but it and its descendants are the heart of the Amiga range. The Motorola 68k series is also used in the Macintosh family of computers.

For techno-freaks, the 68000 has 23 address lines (so you can't address odd memory locations), 16 data lines and over 1000 instructions. The original brief (some ten years ago) was to produce the most flexible system possible with the technology available, judging by the longevity the chip obviously has, they certainly succeeded in their mission.

UT

6 CIA

The Complex Interface Adaptors control all communication with the outside world via the parallel and serial ports. They even control communication to the keyboard unit and are responsible for sending codes to flash the LED.

There are two of these chips,: one to handle Odd data, and one for even. They are also very delicate. If you botch a printer connection a funny smell will tell you that these chips need to be replaced.

7 ROM

The Amiga 500 Plus ROM may not look a lot different from its predecessor, but it is. For a start, the new ROM is 512k instead of 256k. This has caused some problems with accelerator cards which copied the ROM into Fast RAM to speed up execution.

What is in the new ROM to make it so much bigger? Well, most of it is taken up with better housekeeping routines and support for the redesigned custom chips (ECS or Enhanced Chip Set).

8 CHIP RAM

The Chip memory installed on board the A500Plus (all 1Mb of it) can be accesed directly by all the DMA chips. By installing more memory in the trapdoor, the 500 Plus can have a total of 2Mb of Chip RAM. The 68000 can address a further 8Mb bringing the total system size to 10Mb. Not bad for a home computer.

9 KEYBOARD INTERFACE

The keyboard interface is more intelligent than you might think. It even has a special 555 timer chip specifically to flash the LED on and off at the corect rate. Further diagnostics can be obtained via the Caps Lock key. A coded message will be sent via this light if there is a hardware error preventing the system from initiating.

10 CLOCK

Not much of a feature, but the A500 didn't have one. The small blue thing is a NiCad battery which will keep the time even when power is disconnected. Despite scare stories, the memory of the clock is too small to permit a virus to live there.

11 EXPANSION PORT

An extension of the main CPU bus allowing extra peripherals to be connected, These are usually hard drives but could theoretically include devices like scanners or accelerators. The latest Amiga, the A600, doesn't have one.

CDTV – *A future?*

There are problems with any new technology. Not so much the problems of design, or the increasing tolerance and accuracy to which things must be manufactured – but also the problems of marketing. The problems faced by CDROM should not have been so great as CDTV sales would have you believe. It was the right tack to take.

In their infancy, Compact Discs were first conceived for storing large amounts of data, such as would be needed by the computers of the future. Computer manufacturers took a look at it, said it was too limited and far too expensive and went away again. Philips developed the idea along a different approach. Having successfully sold the idea of audio Compact Discs to the audiophile (to whom they promised eternal high fidelity listening pleasure) and to the record companies (to whom they promised greater profits and a chance to rerelease their entire back catalogue and get people to buy it again), they were now in a powerful position to offer it again to the computer industry.

With entire West German factories churning out nothing more than Pink Floyd's Dark Side of the Moon, manufacturing prices plummeted to around twice the price of duplicating a floppy disk. Did we see the price of music CDs go down? No, in spite of a fairly low inflation rate they have actually gone up. Killings are being made.

But not by Commodore. The money in the hi-tech home entertainment market is in the product, not the delivery system. A CD player is a CD player. Nobody really expects one to be any better or worse than another – in fact that's the whole point of them. That's why CD manufacturers fall over each other to invent new features and gimmicks to make their system seem better.

So why aren't software houses falling over each other to produce titles? Well, a lot have produced at least one title, mostly games. It's usually a safe title, like a very well-known game that everyone is going to buy, or at least can become part of some future bundle or collection. The obvious reason why they are not going all out is because it looks like Commodore aren't going to sell many units. One of the reasons is coverage. Walk into any high street store like Curry's, Dixons, or Connect. Where are the CDTVs? Not there. Instead, they are all huddled together in bands down at Radio Rentals or, if you're lucky, at the local computer store. The second reason is a lack of commitment.

It's not that people doubt that those at Commodore are willing to do almost anything to flog CDTVs, it's just they don't reckon they'll be able to. The market isn't that receptive to new ideas at the moment (and who can blame it during a four year blip in the economy) – remember the satellite dish? Oh yeah, it's really popular now, but remember the days when they were giving them away every day in the gutter press. Sure, if Commodore started giving away CDTV's then people will start producing more discs. Unfortunately, Commodore can't take a huge loss like that to kickstart the industry.

So what is the future for CDTV? If none are sold no-one will produce any software and no-one will want to buy one. Well, the answer could be CDTV's biggest rival CD-I. What happened in the music industry? All the record companies and technology companies got together and made deals. Okay, so the end user got a bit stitched up, but the industry is thriving. It wouldn't be beyond the realms of possibility for the CDTV to become CD-I compatible, in much the same way as it has become Photo CD-compatible.

By now, Commodore should realise that they can't go it alone. In fact, judging by sales of CDTV and CD-I they may have a tough time going it together. A CD-I option for the CDTV would give Commodore the edge – no-one is ever going to be able to expand their CD-I machine to become a home computer - it would be far too expensive.

This may explain Commodore's reversal of their early reluctance to admit that under the black casing beats a heart that's pure Amiga.

So, Commodore boffins are already secretly drawing up their plans for world domination in the shape of the Amiga 4000. But what shape will such a machine take?

TOWARDS 4000

NEW GROUND

The secret is, of course, that Commodore are working on a completely new Amiga. Where exactly in the grand scheme of things it will be placed remains open to question. It's unlikely that the machine will be too far ahead of the A3000, certainly in terms of cost. Commodore will be wanting (or at least, should be wanting) to consolidate the reputation of the Amiga as a serious tool in the areas where it has already made an impression on. It should also allow greater compatibility for the peripherals of the future, enabling it to become a more effective multimedia workstation. But what specific things should we look out for?

PRETTY PICTURES

It would be nice if the the next generation of Amigas came with 24-bit graphics as standard. This would enormously improve their reputation amongst DTV enthusiasts, especially if the design was based around or licensed from Amiga Centre Scotland's *Harlequin* board. Unfortunately, this would be a bit expensive. So what is going to be done abou t it?

As we understand it, Commodore approached Digital Creations, the makers of DCTV, to obtain a licence. DCTV is a very cunning system that uses PAL encoding to fudge a 24-bit display. Despite the seemingly backstreet electronics, the results are astounding. Unfortunately, talks over the system, which has a retail price of £599, broke down. Commodore then moved on to do a deal with Black Belt, the makers of Ham-E. This slightly cheaper system (£299) is capable of displaying 262,000 colours on screen at once including 24-bit images rendered with programs like *Sculpt* or digitised with *Digiview* or *V-lab*.

SOUNDING OUT

In the very near future, we will see a production line Amiga with 12-bit or 16-bit sound. Third party boards are already available in the States, and it is only a matter of time before they make their way to these shores. What does this mean to the average Amiga user? Well, musicians will benefit greatly from the ability to sample at CD quality directly to the Amiga rather than via a £1000 stand-alone unit as at present. They would then also have the facility to edit the samples at full 16-bit depth which would give a greater creative input to the process, and also allowing many effects which are not possible without a great deal of expensive hardware.

If the board were to include a DSP (Digital Sound Processor), its functionality would be greatly enhanced. In essence, the DSP is a dedicated processor (rather like the Blitter only dedicated to the sound hardware) which would allow real-time sampling direct to hard disk. This would be a great advance. At the moment record companies are using similar technology on the Mac to master albums directly to disk. The hard disk can then be plugged in at the CD manufacturing plant and all the disks mastered digitally without any nasty analogue noise creeping into the process.

Also, the prospect of doing it yourself would no longer require a lot of hardware at home. CD companies will manufacture in lots of 1000 at £1 per disk. If direct disk mastering were possible for the Amiga, even amateur musicians could afford their own CD run.

DISK US

The one thing that Commodore would be foolish not to include would be a high density drive. Rumour has it that a late batch of A3000s were released with a high density mechanism in the States earlier this year. With such a device and the necessary workbench support Amiga users could at last access PC and possibly even Mac disks directly from AmigaDOS, without having to fiddle around with external drives, CLI utilities or complex and unreliable mountlist hacks.

It would come as a great relief to professional graphics users whose entire existence is made a misery by limited disk space and conversion difficulties. With the amount of information being processed by all the hardware we have already mentioned, a disk capacity of at least 1.4 Mb would be a necessity.

WHATEVER WILL BE...

It would be historic for Commodore to take any notice of what the industry or the users want or need. We can only hope that our aspirations coincide with whatever bizarre marketing opportunity they believe they can create. the Amiga is an amazing machine. Some people would say that Commodore gave life to the Amiga, others that since the A500 was launched they have done little but hold it up. Yes, Commodore gave the world the Amiga, but those of us with longer memories also recall the Plus 4, the C16 and the C128. We can but hope and wait and see.

TOP TEN SURVEY...

Having polled various industry figures as well as dedicated users we have come up with this top ten list of features they would like to see in a new Amiga

1. High density floppy drives
2. Built-in 16 bit sound capabilities
3. 24-bit graphics support
4. Integral genlock
5. Faster Blitter chip
6. More capacity for Chip memory
7. Better design to allow easier chip upgrades
8. New RISC architecture
9. Integral Midi ports
10. Integral SCSI II port

Some of these demands may be mad or impossible, but that's what the people seem to want.

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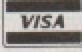
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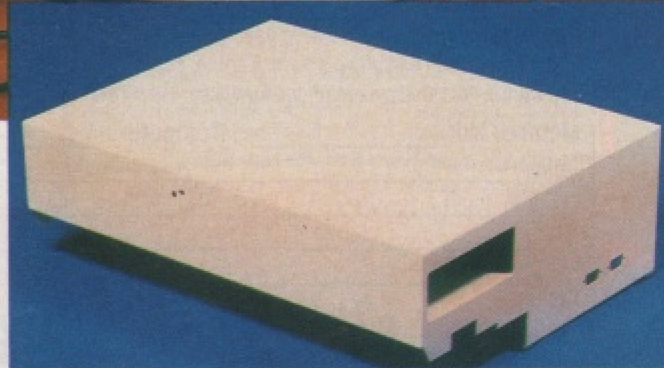
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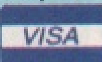
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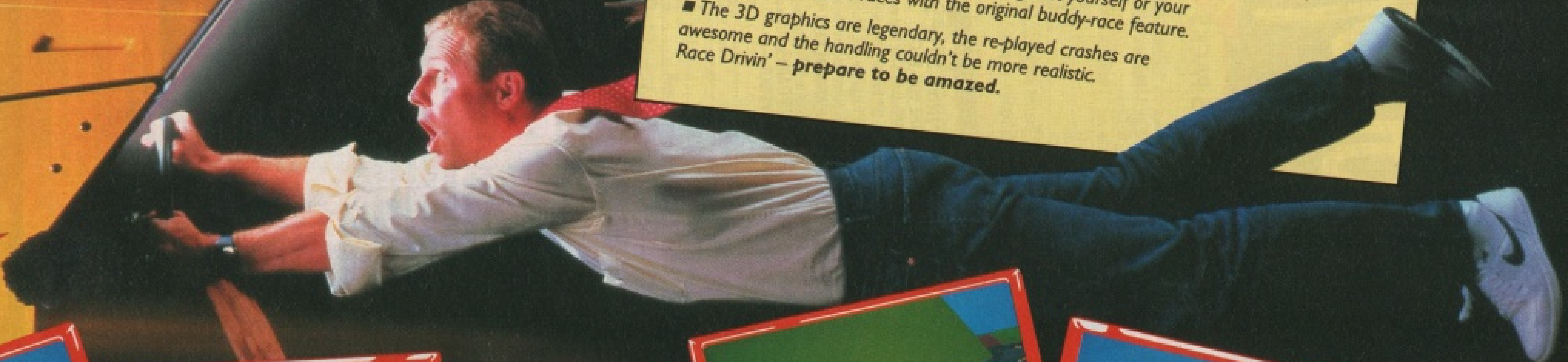
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AMIGA SCREENSHOTS

TENGEN

DOMARK

Welcome to Screen Scene. Our reviews are timed to coincide with the release dates of the games themselves, so you won't

SCREEN SCENE



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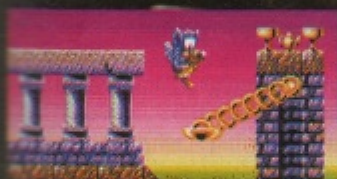
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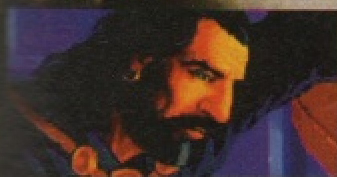
56 John Barnes



75 Fire And Ice



82 Eye Of The Beholder 2



86 Global Effect



FIRST IMPRESSIONS



CU Amiga casts its-eye over the wealth of games destined to hit your Amiga very soon...



Initially, all the Humans' skills are limited to climbing and throwing – but their repartee is soon expanded.

HUMANS



Mirage

So You Want An Evolution...

THE GAMEPLAY: Man's evolution from an Ape to present-day Homo Sapien has been the subject of countless debates and arguments. Newcomers Mirage, however, are set to release their own view of how we stopped dragging our hands along the ground — and it looks as if Man evolved from Lemmings rather than primates! The first of a trilogy, *Humans* gives the player control over a party of six Neanderthals, who are just aching to expand their minds and capabilities. Starting with the basic abilities of climbing, walking, and creating a human tower(!), their progression through the game's 120 levels sees them acquiring use of spears, the wheel, and eventually fire. In addition, as the player learns to use these revolutionary concepts, they can also recruit witchdoctors to cast spells and and Kings to organise the people. The joystick controls each of the primitives in turn, with the F keys selecting each character as and when they are needed.

PLUS POINTS: The most striking feature about *Humans* are the actual Human sprites. Although the gameplay is similar – but more advanced – than *Lemmings*, the characters are portrayed as massive sprites, and each is superbly animated. As they learn the use of assorted objects, they roll on wheels (and over each others' toes), climb up the backs of friendly Dinosaurs and, well, fall over a lot. However, the gentle learning curve is also ideally suited for the scenario, and prompts more logical thinking than Psygnosis' suicidal heroes.

BEHIND THE SCENES: Imagitec Design, are the coding Darwins behind *Humans*, and they intend it to be the first of a trilogy of games. From these humble beginnings, the next two games see the rapidly-evolving race entering 'The Age Of Chivalry' and 'Space', but these are several months behind in development. Production started five months ago with Imagitec piecing ideas together on paper, coding started a few days later.

FIRST IMPRESSIONS: Whilst the goings-on in *Humans* aren't exactly breath-takingly fast (because the Humans only seem to make one discovery per level – still, I suppose that's how evolution works), one little mistake will set mankind back hundreds of years. It's definitely a fun little number, with plenty of puzzles throughout its many colourful and detailed levels, but the variety could be a problem. Admittedly, in the version we saw, not all the features were running, but if Imagitec can cram in all their good ideas, *Humans* will be a stunning debut for Mirage.

BEAST MASTER

Thalamus

Thalamus leave the Beast's shadow.

THE GAMEPLAY: The quest for the 'Guiding Light' has claimed many adventurers, as the path between them and it is a long and dangerous one. However, you aim to be the one person to claim the Light's powers but before you can do so, there are three large scrolling sections awaiting your attentions. *Beast Master*, despite looking rather similar to Psygnosis's *Shadow Of The Beast*, is deemed to be a deeper, more puzzle-orientated game, with a sprawling forest, a temple and a third, as yet undetermined, level ready for your exploration. Each of these stages contains all manner of energy-sapping inhabitants, and these will sap your precious energy given half a chance. In addition, guarding the end of each stage is a massive guardian, who also must be vanquished before progress is made.



As the hero runs across the screen, a bank of icons can be summoned for object manipulation.



PLUS POINTS: It's obvious that *Beast Master* is heading for comparisons with both *Beast* games, but no matter who wins out, there's always room for graphics like these. The main area where *Beast Master* will score points over the Psygnosis games, though, lies with the difficulty level. Whereas *Shadow* lobbed all manner of nasties at you, with the occasional puzzle to solve, in *Master* the puzzles take precedence over the arcade element, with the game's beat 'em up elements rarely called for.

BEHIND THE SCENES: *Beast Master's* concept has grown from an original idea from Wayne Smithson, leader of development team, WJS. In the past, Wayne was the brains and coding talent behind *Spellbound* for Psygnosis, but his role on *Master* is limited to that of project manager, with newcomer Leo Skirenko handling the 68000 duties. Leo is compiling the game using *Snasm*, whilst

COOL CROCK TWINS



Left: The game opens with the fickle female leaving the Cool Crocks in the lurch.



Crock Twins' simple gameplay belies its considerable playability.

Arcade Masters
Croc Around The Clock

GAMEPLAY: Funk and Punk have fallen for the same girl, the beautiful crockette Daisy. Unable to decide between them, she does what any girl would do and runs a mile – several miles, in fact, in an attempt to escape the problem. With you taking the role of one of them, the amorous amphibians give chase over 60 platform levels and six worlds to proclaim their love. Each level is filled with coloured blocks that have to be lit. The crocks have the power to defy gravity and by walking around the four sides of the screen and platform's surfaces, they can jump off, smack into, and illuminate, the three elements that each block possesses.



PLUS POINTS: Each level is patrolled by a quota of baddies. They begin with four and can go up to about fifteen on screen at once. These characters add an element of excitement to the game, as every time you spin off a surface and squish one, they throw up a letter that gives you a different power. F freezes the screen, S lights three blocks at once, N neutralises special blocks and so on. Squash all the sprites on the level and you get an extra life. The graphics don't change much, except on the enemy sprites which alter according to the world you're in. They range from Eskimos and gangsters to pirates and farmers. Other features are blocks, boulders, snowballs and doors that obstruct access to the lights. Passing through question marks will throw you off in random directions, whilst arrows will send you in the indicated direction and then swivel around for the next time.

BEHIND THE SCENES: The initial game idea came from French programmer Benoit Varasse. The project has taken 12 months to develop and should see a release within the next month. The biggest problem Benoit faced concerned the interaction of the graphics due to the speed at which the two crocks spiral around the screen at the same time.

FIRST IMPRESSIONS: *Cool Crock Twins* is the first official launch product for Entertainment International's Arcade Masters label, and it certainly remains faithful to the company's title. The game is a true arcade experience in every respect. Nice touches, such as farm yard animals and birds, that sweep across the screen bearing humorous messages, all add to the game's overall feel of quality.

MAGIC BOY

Arcade Masters
Hewlet is the new Sorceror's Apprentice...

GAMEPLAY: Take the Mickey mouse scene from Walt Disney's Fantasia and mix it with some cartoon-style computer graphics and you've got *Magic Boy*. Hewlet has accidentally let loose all the Sorcerers pets so, armed with his magic wand and a small bag, he must gather them up before the magician's return. Luckily, by using the wand, he can stun the creatures and throw them into his bag. However, the effect doesn't last long and if he doesn't deposit them into their pens within 10 seconds they'll break free. There are 80 levels with eight worlds, each possessing a different theme. Every monster on every screen must be caught and contact with them means instant death.



PLUS POINTS: Detail on all the sprites is excellent, when Hewlet has collected a monster and put it in his sack you can see the beast kicking and struggling to get free. The Mage's castle is filled with platforms incorporating springs, disappearing blocks, conveyor belts and pick-ups. The magic wand is pretty wimpy to begin with, but you can get more powerful models. The colours and renditioning of the snakes, birds, giant mosquitoes, mini dinosaurs and elephants are exquisite and animation of Hewlet is full of character.

BEHIND THE SCENES: John Dale is handling the code for Arcade Masters. He currently programs in his spare time as he works in the computer Law department at Warwick University. Not content with just handling the Amiga code, John's also creating the Atari and Famicom versions simultaneously! At the moment there's a slight problem with sprite detection, but that will be ironed out as soon as John gets another day off work!

FIRST IMPRESSIONS: With a large childlike sprite *Magic Boy* is not unlike *Rainbow Islands* in looks and game-play. However, a major asset in its favour is its novel 'feel'. When Hewlet picks up a monster they'll always relinquish something. A piece of fruit for bonus points, letters to spell a word for an extra life, rainbows to skip levels or stars for credits. These little touches, plus the charm of the game, and a slight puzzle element, makes it look a welcome addition to the cutesy genre.



the graphics are produced using *DPaint* by *Godfather* maestro, Pete Lyon. The development period has been 'pretty problematic' as Leo struggled to get the many puzzles to run logically, but apparently they have beaten this problem, and the game is on course for a July release.

FIRST IMPRESSIONS: With *Shadow Of The Beast* and its sequel heavily criticised for their high difficulty level, *Beast Master* is aiming to capture the imaginations of anyone who wants a high-class arcade/adventure which also features balanced gameplay. The game's puzzle element is very strong, and whilst the beat 'em up action certainly adds to the game's Indiana Jones 'feel', it would be unfair to label Master as an arcade game. Thalamus are getting very excited about *Beast Master*, and if the playability ends up half as good as Pete Lyon's screens, then their optimism should be rewarded.



'ERE WE G

With the European championships just around the corner, the Football genre has once again started to liven up, with nearly a dozen new Footy games on the way. The trouble is, with *Kick Off II* as the industry benchmark, will they be able to knock Anco's league winner of two years' running from its perch? Over to you Trevor Brooking. 'Yeah, well, Steve, as I was saying to George Best the other day, I said "Besty, that *Kick Off*'s a game of two halves and no mistaking", and he said "yeah, but everyone takes too much of a sensible option with it..."' S'funny you should say that, Trevor – nice jumper by the way – but those wacky lads at Sensible Software are first up for promotion with the aptly-named *Sensi Soccer*.

Errrrr... quite extraordinary... with the England team well on their way towards the next World Cup and the European Championships soon to start, yet another wave of Football-related computer games have started to appear... errr.... over to you Steve Merrett for a complete commentary...

SENSIBLE SOCCER
Renegade

During the tail-end of *Mega-Lo-Mania*'s development, Sensible lads, John Hare and Chris Yates, started toying with the idea of a '*Kick Off* Beater'. Sitting down with copies of Anco's classic, *Speedball II*, and their 8-bit incarnation of *Microprose Soccer*, they noted the best aspects of each, and what they would like from a Footy game. After a few mock-ups, *Sensible Soccer* was born.

Featuring tiddly, but well-animated sprites, *Sensi Soccer* is a definite game of two halves – half Football, half madcap humour. The pitch is viewed from above, and the lads have kept everything to a minimum size, with the pitch occupy more of the screen than Anco's game. 'We wanted to allow the player to plan ahead more,' says Sensible's Chris Yates, 'and making the amount of pitch on-screen at any one time larger than in past games seemed the logical thing to do.' Another area they wanted to explore was complete controllability over your squad. Rather than scurrying all over the pitch, your players are allocated specific 'zones' on the pitch – an area for a defender, and another for a winger, for example. In addition, whilst there were very few moves not already implemented in past kickarounds, they felt that they should be made more easy to use. 'We've included all the usual banana shots, bicycle kicks, and sliding tackles,' Chris elaborates, 'but we've tried to make sure that the players react quicker and more instinctively than in *Kick Off*. That way, in the heat of the action, you'll be able to lunge and dive at the ball with a number of players, and they won't head off to do their own thing or slide for no apparent reason.'





Sensible's game aims to take the best aspects of *Kick Off II*, yet also aims to expand on them, too. As a result, Sensi claim the game will flow a lot better than the Anco game.

All the usual rules are present, with fouls, defensive walls and the like, but one thing no past Footy game has attempted lies with *Sensi Soccer*'s sound department. 'The crowd roar when the play goes their way,' Chris enthuses, 'and in the International matches between Italian and Spanish team, there will be fireworks and whistles coming from the crowd!' *Sensible Soccer* and its many options will reach the Amiga in time for a May release, and we'll be bringing you a full review next month. Over to you Trevor...

'Yes, it seems like the Sensible lads have done it again. First they revived the Footy genre on the C64 with *Microprose Soccer*, and they could offer *Kick Off II* worthwhile competition if their promises come off. After all it's a funny old game, and they could be as sick as a parrot if they don't make the Elite. Another extremely tenuous link, cheers Trevor – your hair looks nice and curly, by the way, new perm?

EUROPEAN CHAMPIONSHIP 1992
Elite

The next battling for promotion and hoping to part Joe Public from a twenty-six quid transfer fee is from Elite. Last year, the Walsall-based company scored a massive own goal with their other Tecmo *World Cup* licence, but they hope to bounce back with this conversion of Tecmo's *World Cup 90* coin-op – which now goes under the updated name of *European Championship 1992*.





Developed on the PC using the coin-op's graphics and cource code, Elite are claiming that *European Championship 1992* is identical to its arcade parent.

Using the Tecmo coin-op's original source code, Elite boast that it will be 'the benchmark of all Football games.' Strong words indeed, bearing in mind the amount of competition. Abandoning the ever-popular bird's-eye perspective in favour of a touchline viewpoint, *EC* also features all the usual shots and rules we've come to expect. The game is being developed by Cygnus Software Engineering, and development is being led on the PC version. 'It's looking really good,' said a very chuffed Stuart Hibbert, Elite's Development Manager. 'Although the PC is leading in terms of development, everything is going across to the Amiga very nicely, and it should result in a perfect conversion.'

it has to be said, though, that the original coin-op was a bit drab and the action a little forced, but Elite are planning to tighten up any loose areas and inject much-needed humour with the likes of streakers and players running into goalposts. If Elite live up to these promises, they may have a chance for glory, but with the aforementioned *World Cup* still sorely remembered they may have to make it exceptional to draw the fans back. Let's go back to the studio and Elton Welsby...

GO...

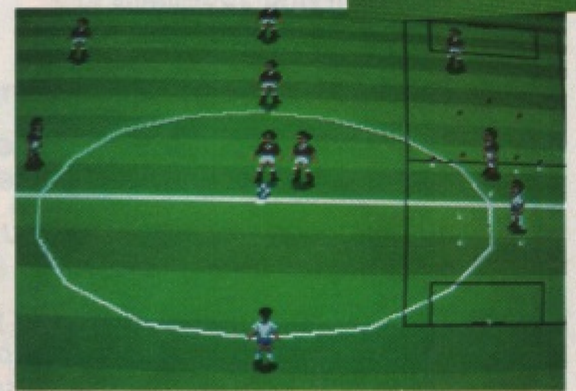
Thalamus confidently think that it will blow away past licensed games. Now over to Steve Merrett who has been talking to Liverpool-based Rage about their very impressive-looking kickabout...

STRIKER
- Rage

Rage are a new face on the software scene, but their reputation has already been forged. Rage is, in fact, the new label adopted by ex-Ocean developers, Special FX, who have at long last made the break to become a stand-alone publisher. Paul Finnegan, head honcho of Rage, is quietly confident about the move, and their first release, *Striker*, is nearing completion.

Played over a forced 3D pitch, with the pitch receding into the distance, *Striker* aims to be the game that *International 3D Soccer* and *I Play 3D Soccer* failed at. Using small, but well-animated sprites, the game is a fast-paced Soccer sim which could quite easily knock *Kick Off* from its perch. It's difficult explaining what makes *Striker* so impressive, but the main reason for its success is that it plays so smoothly and the action is instinctive and fluid. 'We looked at most of the footy games around,' opens Finnegan, 'and obviously we looked at *Kick Off II* the most. The final result we wanted was one where we could make it look very different, but retain the pace and sheer number of moves of the Anco game.' And, to be honest, they've certainly succeeded. As the players run around the pitch, the screen pans behind the currently-selected player, and via the joystick all the expected moves are there – and more. Diving headers, lobs, free kicks and corners are all available, and extremely easy to use. 'We've tried to keep it as simple as possible,' Finnegan elaborates. 'The moves are all accessed via different moves of the stick and the firebutton, but we've still kept it that, if a





***Striker's* speed and control system should make it a very impressive debut for Rage.**



Arsenal's David Seaman shown here in all his digitised glory – his stats will fill the space to the right.

ARSENAL
Thalamus

(Smarm) Hello, and welcome to 'The Match' (sexy grin to nearby Denis Law and his back to the mooning fans in background). On today's The Match, we've got goals galore from all the first division matches (creep, oil), which in other words means that Liverpool are the main feature whilst we butter up all you QPR and Everton fans with the odd clip from the game you stayed in all day to watch (grease, ooze). Anyway (smiles to camera), next up today we have *Arsenal* who have ditched George Graham and are currently being managed by Thalamus, and groomed for a potential summer onslaught.

Converting the likes of Ian Wright, Paul Merson, and Tony Adams (with or without his prison outfit) into pixels are relative newcomers, Cyrius Software, and their attempts to bring 'The Gooners' to the Amiga have taken three months so far. As it currently stands, the game is a mixture of arcade and managerial styles, with the would-be George Graham picking and training his team, and then – hopefully – guiding them to victory during the arcade sections. At the time of writing, only the managerial sections are up and running, but these are still looking very impressive. Digitised pictures play an important part in the proceedings, with each player shown to the left of the screen, and their relevant stats alongside this. It's early days as to whether *Arsenal* will be a league topper, but

LOAD OF OLD BALLS

Can we ever forgive Anco? There we were all enjoying the likes of *Microprose Soccer* and the countless other Footy games which were hitting the scene, when along they come with their bland-looking game. When Anco first took *Kick Off* around to all the magazines, it was treated to cursory glances and was relegated to 'One-Page Review' Heaven. However, actually playing the game opened up a completely different can of worms. *Kick Off* avoided the 'Velcro Boot' syndrome of *Microprose Soccer* and Activision's abysmal *Fighting Soccer*, and also bore a resemblance to the real sport! For such a popular computer game theme, the age-old sport of kicking a leather bladder of hot air around had been sorely neglected, with would-be Kevin Keegans and Malcolm McDonalds limited to the managerial aspects, rather than 'on-the-pitch' action.

One of the first (and worst), was Grandslam's *Peter Beardsley's Soccer*. Then then-Liverpool striker was one of the first players to endorse a game, and he obviously never saw it before it was released! Although graphically, it was fine with large cartoony sprites, all the players looked like mop-top Pete, making the game look like a Beatles convention! And if that wasn't bad enough, it was a complete walk-over, too. Hope springs eternal, though, and Footy fans were pinning their hopes on The Electronic Pencil Company's conversion of Sensible's 8-bit classic, *Microprose Soccer*. Alas, though, the conversion somehow lost all the charm of the C64 original, along with the fast-paced playability, too.

Mere weeks after Microprose's non-leaguer, though, came a pathetic-looking game from Anco. *Kick Off* used minute players set against a pitch which, in relation to the teams, must have been at least two miles long. However, it had one thing that the others lacked: complete control over all the shots and passes. None of this 'velcro boot', where the ball instantly sticks to your player's foot – in *Kick Off*, you dribbled properly, and very hard it was to master, too. Nevertheless, it was the best Footy game ever, and consequently won a myriad of good reviews and sold thousands of copies, raising Anco from their previous obscurity of *Scramble* and *Donkey Kong* clones.

Following this, licences galore were released with *Liverpool*, *England* (the less said about that the better!), and good old Gazza making an appearance, along with variations on the theme, including Red Rat's brave attempt at using a 3D perspective to depict the action – unfortunately, the game was rather slow and Microprose had one of their rare duffers on their hands. Again, Anco came to rescue with the now-legendary *Kick Off II* which now boasted defensive walls, fouls, and aftertouch, and which again left the rest straggling behind. Until now, perhaps...

'ERE WE GO...

cross comes across, you can send a player lunging in for it.'

Graphically, *Striker* is of the *Kick Off* school of minimalist sprites. However, whilst they are larger than those of Anco's game, they are also considerably better to look at. In addition, the control system may appeal to anyone who never got the hang of Anco's game's dribbling system. 'We've gone for a loose variant of the 'velcro boot' system,' says Paul, 'as this makes interception easier, and tightens dribbling. You still have to work around the ball and it can be swiped away from you very easily, but it isn't quite as free running as people may be used to.' Everything about *Striker* is geared towards the arcade element, and it works very well. For free kicks and throw-ins, a dotted line indicates the path and height of the shot, and penalties are viewed from directly behind the goal, with a small cursor passing from side to side. Paul is obviously very pleased with *Striker*, and with very good reason. It succeeds where most of the 3Ders have failed – in the speed area – but retains *Kick Off*'s obvious playability. Watch out for a full review next month. But now, over to Teque for a slightly... err... different look at Football.

EURO FOOTBALL CHAMP
Domark

It takes a lot to make Teque's Dean Lester a happy man, but Taito's *Euro Football Champ* coin-op usually brings a smile to his face. 'It's brilliant,' he says, 'not only is it an excellent Football game, but there are elements of mindless violence, too!' Quite. But it's a good job that Dean likes it, as his busy band of Teque coders are currently putting the finishing touches to Domark's conversion.

Viewed from a side-on perspective, the *Euro Football Champ* coin-op can be played either as a 'Gentlemanly' Football game, or, with the cabinet's extra buttons, as a foul-laden scrap, with short-pulling and leg-hacking abound. 'The coin-op plays a brilliant game,' Dean continues, 'and has everything you need for an excellent Footy game. It's fast, it has plenty of easily-accessible moves, and the violence is the icing on the cake.' Among the many moves available to the player are bicycle kicks, héaders, and the players can even be made to indulge in a little 'Keep It Up', using their knees, feet and chest! 'The moves depend on the situation, and if a player stands still, they can chip it up and boot it over their head, or simply let fly with a long, low shot.'

Another aspect which Dean thinks the Domark game will excel in is in the Goalie area. 'They are great,' he continues. 'Whereas in *Kick Off* or whatever they can save or miss and that's it, in *Euro* they're regular little Peter Bonettis (remember him?) who can tip a shot over the bar, fumble it, and be amazingly acrobatic.' So far, it sounds like the perfect Footy game, how accurate is it? 'Apart from the violence, it's pretty much perfect. We've been playing the coin-op non-stop – actually it's in for repair at the moment! – and we know what makes a good game, but there's load of smaller touches which are also worth going in.' Such as? 'The referee, for instance, is really fat and, as a result, can't keep up with the players. So with him out of the way, they can start fouling and kicking chunks out of each other. In addition, if a goal or equaliser is scored in the last few seconds of the game, the scorer goes ape.'

The main bulk of the game is now complete, and the coders – John Broggy and Rahim Abdul - are currently adding the game's presentation and net data for the game's May release. And with Krisalis's *John Barnes* and *Man Utd* games also hailing from their London base, Teque certainly have good Footy credentials. Over to you, David...

Errrr... well that's all we've got time for this month. Next month we'll be printing the results of most of these forthcoming matches, and it's guaranteed to be a game of ups and downs. In addition, the first of the torrent – Krisalis's *John Barnes' European Soccer* – has already made it to us - albeit to a luke warm reception. But, at the end of the day, it's sales that count – and there's certainly some competition out there...





Domark's conversion of the Taito coin-op features all the shirt pulling fighting aspects – perhaps this would be the ideal game for Vinny Jones to endores!



OWN GOAL NO 1
I PLAY 3D SOCCER

Released by Impressions, this one looked infinitely better than it played. Utilising the 3D system pioneered by Microprose's *International 3D Soccer*, programmers, Simulmondo, bravely used sprites on a vector-based pitch. Although it supposedly contained all the expected moves and kicks, the screen was updated in such a confusing way that it rendered the game unplayable. In addition, because the action was viewed from behind the players, judging the length of long balls was nigh-on impossible, making passing extremely difficult – although the dim nature of your opponents made up for this. Since *I Play*'s release, Simulmondo seem to have disappeared – unless they're working on a sequel.

OWN GOAL NO 2
HOTBALL

I'm afraid the foreign company responsible for this piece of garbage escapes me, but as you're never likely to spot a copy of the game (unless it's right at the bottom of the bargain bin), I wouldn't worry too much. The most unusual thing about *Hotball* was its complete ignorance of the game's rules and the bulky anti-piracy dongle which hung out of the back of your machine. This allowed four unlucky cretins to suffer together, and with its dire graphics, non-existent gameplay, and minimal options, this was the worst punishment imaginable.

OWN GOAL NO 3
ROY OF THE ROVERS

Released around the time when Gremlin were publishing such top-notch releases as *Artura*, *Dark Fusion*, and *H.A.T.E* (that's sarcasm, by the way), *Roy Of The Rovers* was a two-stage affair following the adventures of everyone's favourite Melchester player, Roy Race. The first half of the game was a piss-poor arcade/adventure where Roy had to locate his missing team-mates. Blackie Grey and Co. had been kidnapped by a ruthless property developer who wanted to bulldoze their ground for a shopping centre or something, and Roy had to solve a series of puzzles and occasionally return to his Mum's house for tea and health replenishment if he was to succeed. Once Melchester were reformed, an even worse Footy stage was initiated, where a team of Lego bricks took on Melchester – whose ordeal had left them sinisterly deformed. This is one of the all-time stinkers, and if you ever see it, buy it just to see how bad it is.

OWN GOAL NO 4
FIGHTING SOCCER

The worst thing about *Fighting Soccer* is that it was a crap coin-op before it reached the Amiga. You would have thought that Activision's Big Cheeses would have thought 'hmmmm, this is a pile of drivel, let's put our cheque book away' – but no. Someone, in their infinite wisdom, tried to convert the big gaudy sprites over to the Amiga, along with the 'exciting and revolutionary' violence aspect. The result? A conversion which was even worse than the coin-op, and Activision relegated to the French league.

OWN GOAL NO 5
WORLD CUP SOCCER

Not to be confused with the forthcoming Elite conversion, this Amiga version of the Sega Megadrive game lost a lot in the transition. The Megadrive original was a real laugh – it didn't exactly push the machine and had very few moves available, but it was fast and play was simple. Elite managed to retain the simplicity, but the speed fell by the wayside. With this key area lost, Elite's game was a pale imitation – almost like a present-day Stanley Matthews running alongside Gary Lineker. Best forgotten, Elite have tried to...

FINAL SCORE...

Whilst it would be unfair to predict which of the above will be the best - after all, several are still midway through development – it has to be said that Rage's game is shaping up very nicely indeed. There is still one major contender to watch out for, though – Anco's *Kick Off III*. Shrouded in secrecy, *Kick Off III* is rumoured to be a massive revamp of the original code. Rumours suggest that it will feature Captains who orchestrate key moves and possibly a different viewpoint. Apparently, the game is three-quarters complete, and the *Kick Off* name alone will ensure that the others should be worried. It's certainly going to be one to watch out for – Rage, Sensible and Domark certainly are...

EXCLUSIVE

The quest for the perfect Mario game continues, and Ocean have bridged the gap between Amiga and console playability even further. Recruiting the kooky Addams Family as the stars, have Ocean produced the ultimate platform game? Steve 'Lurch' Merrett enters their sprawling house...



Among the dungeon's many dangerous denizens are axe-spitting creatures and what appear to be lethal swinging Space Hoppers.



Hidden within the game are a series of unusually-placed doors. For instance, entering the tree on the right opens up a series of root-related screens, whilst other cash and bonus-orientated screens are often found above the more obvious exits.





Rather than limiting itself to the boundaries of a true platform game, *Addams* also features *Toki*-style underwater stages and airborne screens which are accessed using the *Fez-Copter*.





the ADDAMS FAMILY

CREEPY...

From his humble beginnings as the barrel-jumping hero in *Donkey Kong*, Mario has come a long way. Since *Super Mario Brothers* and its horizontally-scrolling platform action arrived with the first batch of NES consoles, virtually every platform game released since has been compared to it. However, courtesy of Ocean, the Amiga has its first 'real' threat to the Brooklyn Plumber, as those creepy, kooky, spooky, and ooky members of The Addams Family make their Amiga debut.

I got my first glimpse of *The Addams Family* during a visit to Ocean's Manchester HQ several months ago, and went away fairly impressed by the fun-looking platformer I saw. Since then, the game has come along in leaps and bounds – literally – and although little touches (such as the parallax the programming team had originally hoped for) have fallen by the wayside, *The* closest the Amiga will get to a *Mario* game – and if that isn't the ultimate accolade, then I don't know what is...

KOOKY...

Taking notice of past licensed failures, Ocean have opted for the '*Hudson Hawk*' route, adopting a single gamestyle rather than a mishmash of sub-games. It had always been Ocean's Gary Bracey's intention to rival *Mario*, and on perusing the film's script, he decided that *Addams* had the perfect setting for it. The game is played within the Family's sprawling mansion, and this allows the game to be broken down into five distinct areas – ie. wings of the building. The scenario tells of an evil property developer who is forwarding plans to flatten the mansion so that he can build a series of towerblocks on its estate. Obviously, this has encountered resistance from the kooky clan, but such protestations have been silenced with the kidnapping of Granny, Morticia, Fester and the kids, leaving head of the house, Gomez, with little option but to scour the house's many dark corridors and rooms in search of them, and, in doing so, defeat the mysterious kidnappers. Just as the scenario is far removed from that of the film, though, the Gomez sprite is equally unrelated to the film's Raul Julia character. With his squat physique, handlebar moustache and incredible running and jumping finesse, all Gomez requires is a set of red dungarees before the transformation into Mario is complete. However, that said, Gomez can match Mario move for move, and even has a few extra tricks up his smoking jacket's sleeves. For example, a flying Fez (a Fez-Copter) can be found in some levels, and can be collected to get Gomez airborne and past particularly nasty areas.



Once collected, the Fez-Copter is invaluable. However, it can only be used within the current section and is lost if taken into another.

MYSTERIOUS...

Starting in the hallway, five doors await Gomez's attentions. These form the entrances to the five wings, and contain a series of creature-infested rooms and the guarded members of the family. Behind these doors lie the garden, the kitchen, a dungeon, and other such rooms, and follow either a horizontally or eight-way-scrolling path. Ocean's studying of all things Mario also shows up in the animation and control over Gomez. As can be expected, the joystick sends the moustachioed hero scurrying to and fro and pressing the firebutton prompts him to

the ADDAMS FAMILY

leap, but these simple controls belie the true athleticism of the sprite. The length of each jump can be determined by keeping the joystick pressed in the direction Gomez is leaping, and his direction can also be altered mid-jump. The flexibility over the character is essential to the game, as to destroy the rampaging nasties, Gomez can either jump on them or avoid them. The jumping method is obviously the most favourable, as several thousand points are given as a reward, but avoidance is less risky.

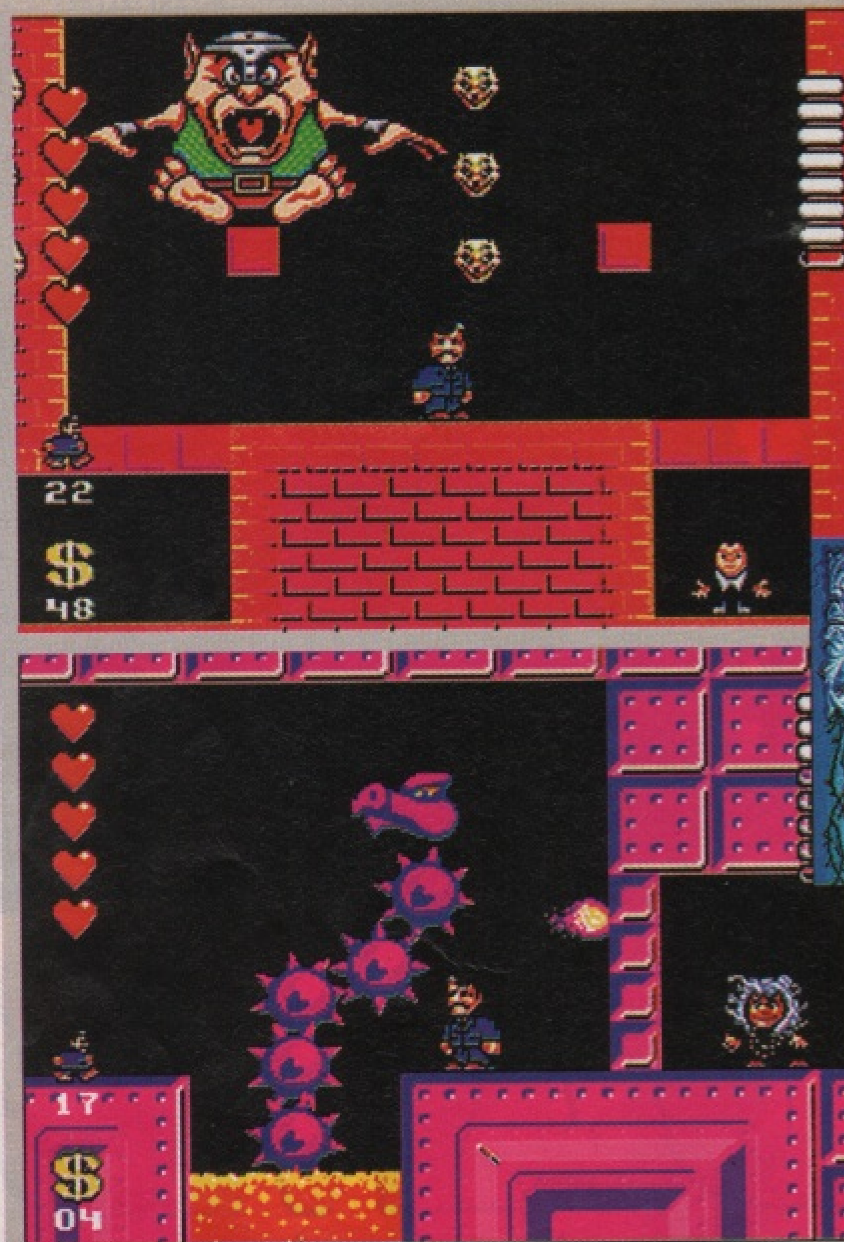
Each of the wings follows the set pattern of avoiding or killing the nasties until the door to the next area is found, and, ultimately, the 'Boss' creature guarding your family member is defeated. However, this simplicity is the basis for *The Addams Family*'s complete playability. Nobody could ever say that *Super Mario Brothers* was the most taxing or original of games, but such is the implementation of the ideas and the ease of use of both Mario and, indeed, Gomez that there's no room for unnecessary sub-games or complications. So, what you get are hundreds of nasty-infested screens, all ready for a good bouncing. Additionally, *Addams*' nasties are all tied in with their respective levels, so the garden features horticultural horrors, whilst the kitchen has cutlery-wielding chefs and the like.

INSIDE THE HOUSE...

Every bit as imposing as the Family themselves, is the Addams' Mansion. Starting outside the building's doors, on entering the foreboding hallway there are five entrances awaiting Gomez's entry. Linked by staircases, these open up to the Garden, a Dungeon/Torture Chamber, the Kitchens, the Library, and the Conservatory. However, also located somewhere within the building are a series of other, better hidden, locations. For instance, on completing a certain task in the Kitchens, access to the fiery interior of the Stove is given, and this paves the way for an appearance by flame-coated demons who are oblivious to your attacks. Similarly, on entering the garden, access to the Family's Mausoleum and the interior of a rather spooky tree can be gained. The former of which actually paves the way to little Wednesday's rescue - mirroring the plot of the recent film rather nicely.

Other areas aren't quite so large, but one room prompts a cameo appearance by your loyal butler, Lurch, who tinkles away on his Piano whilst Thing, your hand-like servant, scurries along on his fingertips. More useful, though, are the actual bonus rooms which are secreted throughout the area. These are often hidden behind secret doors or even inside the mouth of your Bearskin rug, and feature dozens of Dollars and energy-boosting hearts to extend your life expectancy. In addition, 21 extra lives can be found in a particularly useful room during the 'Continue?' screen – but a set procedure must be followed before Gomez can collect these.





TO THE RESCUE!

Before the individual family members are freed, Gomez must take on the massive 'Boss' creatures who stand guard over them. Although they vary greatly in appearance and attack methods, all can be killed by repeatedly bouncing on them. However, although platforms are provided to do so, there's still the danger of coming into contact with them, and these larger creatures drain Gomez's already-limited energy considerably faster than their smaller counterparts. Initially, Gomez can opt to rescue Puggsley, Wednesday, Granny and Fester, but the hardest family member to free is Morticia. She is trapped within a final section which can only be accessed when the other four have been rescued.
Even so, there are still four, all-new stages between Gomez and his lady love...



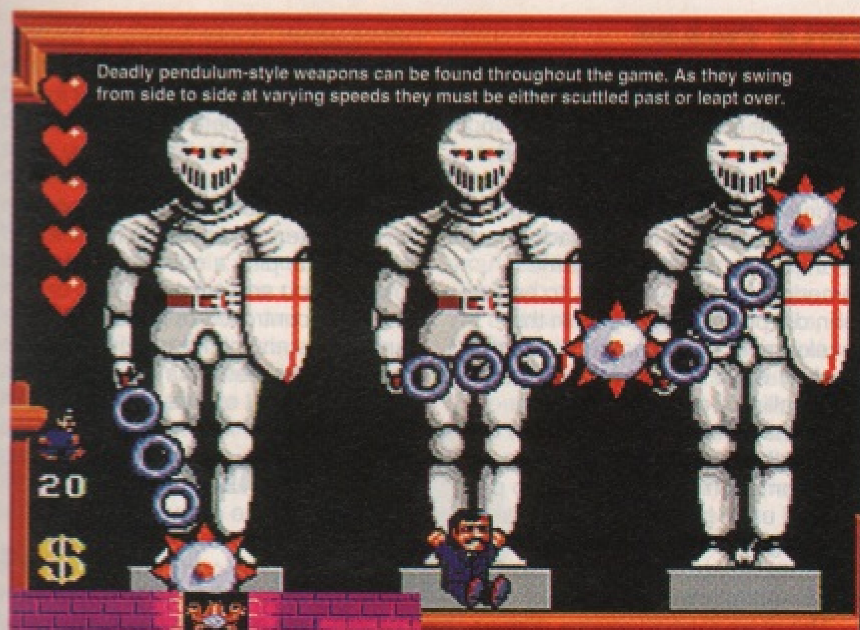
SPOOKY...

Gomez begins the game with a set of five lives, the length of which are determined by a series of hearts which act as energy indicators. These are steadily reduced should Gomez come into contact with a nasty or hit by one of the many swinging axes or rapid-firing cannons that form the game's plentiful static obstacles. However, to replenish any lost health, throughout the game there are a series of Dollar signs which our agile hero can collect. Twenty-five of these money signs go towards an extra energy point, whilst a hundred grants Gomez with a much-needed extra life. The goodies don't stop there, though, and useful power-ups, such as limited invulnerability, can also be collected.

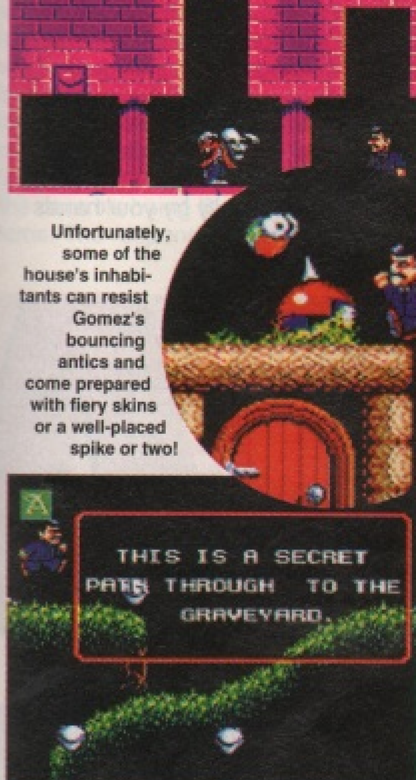
With *The Addams Family*, Ocean have produced what is quite easily their best game yet – with the possible exception of the brilliant *Rainbow Islands* (but it is very, very close). Forget the likes of *Batman: The Movie*, the excellent *Robocop III*, and even *Parasol Stars*, *The Addams Family* is platform perfection. Everything about the game, from the



Worth locating is this mutated Orville lookalike who, if defeated, endows Gomez with a brief period of invulnerability. This is shown as a comet-like tail which trails behind our little hero, and should see him through most of your chosen stage.



Deadly pendulum-style weapons can be found throughout the game. As they swing from side to side at varying speeds they must be either scuttled past or leapt over.



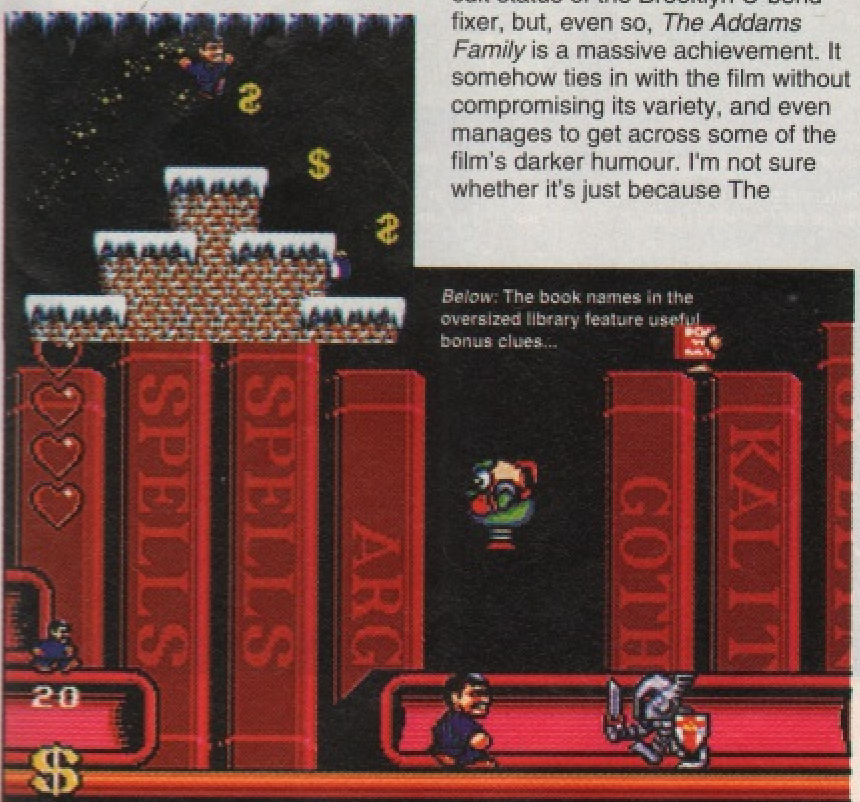
Unfortunately, some of the house's inhabitants can resist Gomez's bouncing antics and come prepared with fiery skins or a well-placed spike or two!

Above: An idea blatantly poached from *Super Mario World* on the Super NES is the clue option. Little boxes are dotted throughout the game and, when head-butted, reveal a useful clue or pinpoint the location of a nearby bonus stage. Shown below is one such bonus room, where Gomez uses his temporary invincibility as he collects the many Dollar signs.

tinkly John Dunn music and effects to the little dust clouds Gomez kicks up when he skids to a stop, make it a polished-looking game – but as in *Mario*, the gameplay still outweighs the aesthetic pluses. The complete control over the Gomez sprite, coupled with the devious layouts of traps, nasties and obstacles makes for a real challenge. Due to programming limitations, there's usually never more than three moving nasties on the screen at any one time, but they are timed to move or patrol so that it isn't really noticeable. In addition, these objects behave in such a way that they, too, can be used in your favour. For instance, above the flight path of a cannonball, there may be a series of Dollar signs and the only way to reach them is to jump in the path of the cannonball and bounce off it to reach them.

ALTOGETHER OOKY...

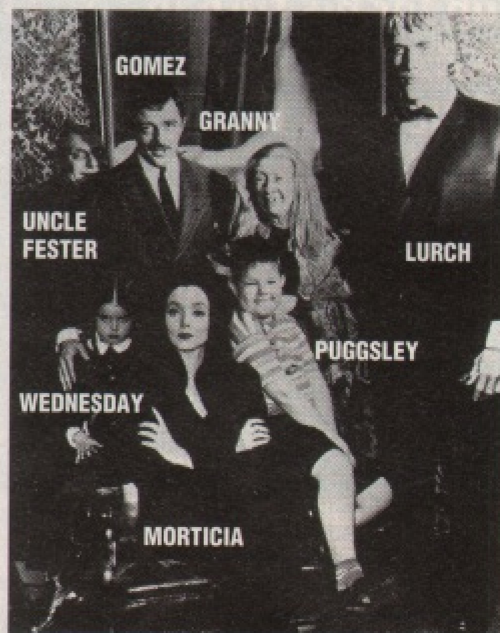
For anyone who has seen Mario in action on an NES or Super NES, then you need yearn no longer for the same style game. *Addams* may not be as busy or as fast as any of the *Super Mario Brothers* games, and I doubt that Gomez will attain the cult status of the Brooklyn U-bend fixer, but, even so, *The Addams Family* is a massive achievement. It somehow ties in with the film without compromising its variety, and even manages to get across some of the film's darker humour. I'm not sure whether it's just because The Addams Family movie was crying out for a decent game based on it, or whether Ocean's programmers have simply pulled out all the stops to produce one of the best platform games ever, but whatever the reason for *Addams'* content and style, Ocean deserve to be rewarded. It seems that they have listened to people complaining about the likes of *Darkman*, *Total Recall*, and *Terminator II*, and come up with the perfect answer. *The Addams Family* has instantly become one of my all-time favourite games, residing up their with the likes of *Kick Off II*, *Rainbow Islands*, and *Jimmy White's Snooker*, and as a decidedly picky git when it comes to what I'll actually play in my own time, that's praise indeed. Steal a copy if you have to, but this is an essential addition to every Amiga's software library. They're certainly ooky by me...



Below: The book names in the oversized library feature useful bonus clues...

MEET THE FAMILY...

Starting life as a series of single-frame jokes in the New York Dailies, The Addams Family have since reached a greater audience via the TV and silver screens. Originally, the family were limited to black-humoured one liners, but with the advent of the black and white TV series in the 60s, script writers actually managed to create an amusing half-hour which was far better than its upstart 'Wannabees', The Munsters – see for yourself on BBC2, where the series is currently enjoying a rerun. On the announcement of the film's forthcoming release, skeptics doubted that a 'half-hour joke' could be stretched across a two-hour screenplay, but the film's dark and ominous humour and perfect casting sent it well into the realms of big budget successes. Prepare to meet The Addams Family...



GOMEZ – The head of the house. Perfectly normal in appearance, he is a dashing romantic who is totally obsessed with his beloved Morticia. An expert swordsman, his other loves include his massive train set (for venting out his rage via a series of spectacular crashes), and continual sparring with his Brother, Fester.

MORTICIA – Svelte and vampiric, Morticia is a real family lady, and takes pride in her little darlings Wednesday and Puggsley – even going so far as stopping them from killing each other. A fan of torture - particularly that to her own body – she is a shrewd judge of character, but perfectly amicable to people she is unsure of.

UNCLE FESTER – Although he is Gomez's twin Brother, the two are completely dissimilar. Whereas Gomez is swarthy and handsome, Fester is short, stocky and bald. A real whizz in the lab, where he is a master of poisons, Fester adores his niece and nephew and can often be found joining in their deadly antics and helping them with new traps.

WEDNESDAY – Morticia and Gomez's Daughter. A fan of the 'Grand Guignol School Of Gore', Wednesday is fascinated by death and murder. However, there is a softer side of her nature, and when she isn't trying to electrocute her Brother, she can be found playing with her headless doll.

PUGGSLEY – Wednesday's long-suffering Brother, but equally as devious. Enjoys experimenting on his Sister, and his favourite toy is a mini-guillotine, with which he decapitates all of Wednesday's dolls.

GRANNY – The stereotypical old crone, Granny can be found cackling her way through the house whilst experimenting his her dark magical powers. She enjoys the odd party, and, although harmless enough, is the most unsettling member of the family.

LURCH – Not exactly a member of the family, but a loyal Butler and classical Piano virtuoso. When not using his massive physique to add dust to the house's higher corners, there's nothing he likes more than tinkling the ivories as the appreciative family sit around.

THING – Thing is a handy little helper – literally! For someone whose bodily extremities are limited to four fingers and a thumb, Thing is surprisingly adaptable. He can pull things on his trolley, massage an aching brow, and, well, hold objects...

buyers guide

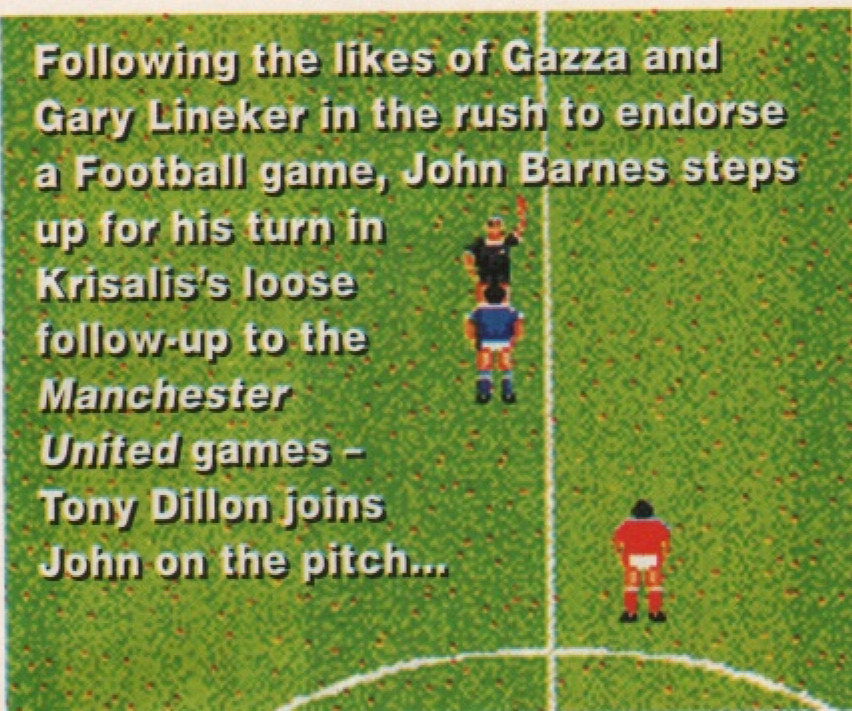
release date	May 1992
genre:	Platform game
team:	Team: James Higgins (Coding), Warren Lancashire and Simon Butler (Graphics), and John Dunn (Music and Effects)
controls:	Joystick
numbers of disks:	1
number of players:	1
memory:	Less loading with 1 meg
continues	Infinite

OCEAN £25.99

"At last! The Amiga equivalent to Mario..."

GRAPHICS	92%
SOUND	87%
LASTABILITY	95%
PLAYABILITY	94%

OVERALL 95%



JOHN BARNES' EUROPEA

TITLE CHASE

Following in the footsteps of Emlyn Hughes, Gary Lineker and Paul Gascoigne comes John Barnes. No, I don't mean playing in the England squad, having a hit single, or becoming an internationally-renowned player – he's done that already. I mean having a computer game named after him. Although, to be fair, John did play a bigger part in the development of this game than smile candidly while holding a joystick for an appallingly crass press photo. Apparently, John had his hand in the door all the way through this game's development (his feet are far too precious to use), but I'm not sure that that's a good thing – it's a bit like Pavarotti telling Stock, Aitken and Watermen how to have a hit.

The more football games appear, the more they seem to be mutations of several previous ones. *Kick Off* was midway between *Speedball* and *Emlyn Hughes' International Soccer*, for example. *John Barnes European Soccer* (*JBES*) seems to have pinched ideas from *Emlyn Hughes*, *Super Soccer*, *Match Day* and, of course, the mighty *Kick Off*. Unfortunately, it also seems to have borrowed a lot of their bad points.

The basic design is standard fare. Eight teams compete in the European league for the championship title, with your opponents controlled by either human players or the computer. Additionally, there's the option to play a one off match between you and either a friend or a computer-controlled opponent. You can play as any of the teams, but it doesn't really matter as there doesn't seem to be a lot of difference between them.

OPTIONAL EXTRAS

There are a huge array of options to work your way through before play commences. You can choose opt for weather effects; whether to display a *Kick Off*-style scanner; the length of the match; if you control the whole team or just John; and the assorted control methods which include an option for play with a Sega joypad. Once you've found your way past the various options, and selected your team and one of the six basic formations, you can finally try your hands (or feet) at a match.



Above: The player under your control is indicated by an arrow at his feet. This switches when the ball is passed.

Below: Although the likes of Ruud Gullit and Gary Lineker are in the sqauds, you'd never guess by the way they play.





Above: As the ball passesthe players, their hods follow its path. *JBES* is full isof nice touches such as these.

Below: The strength of a shot is determined by the length the firebutton is depressed, and is perfect for long shots.





Above: The Goalies are extremely brave and dive realistically – they can also dive at an attacker's feet.

Below: Whenever a goal is scored, it can be viewed repeatedly using the handy 'Replay' facility.



If it's graphic frills and thrills you're after, you don't need to look further than this. I would go so far as to say that these are the best graphics ever seen on a football game. The player sprites are large, and very well animated, and players' heads even track the ball as its passes them– most impressive. Similarly, the crowd bob in their seats, the referee constantly skirts about the screen, and the players have different hairstyles, beards and skin colours. It seems that Krisalis have gone for a football game that looks like a game of football. This, they've done excellently.


Another crack at goal is taken by the 'Keeper...

FOUL!

However, it also seems that Krisalis have tried to emulate how difficult a small leaf of Cabbage would find it to play football – especially when faced by a computer opponent who could put Pele to shame. There are a few major flaws with the playability, the controls being the largest problems. The response time between joystick and player movement is simply too long, and often means that a lot of the time players are sent looping round the ball, but never quite connect. Also, the length of time between pressing the firebutton and kicking the ball is atrocious – a full second and a half at one point. The strange thing is that this rule only seems to apply to human players, as the computer can accurately pass, tackle and shoot without batting an eyelid. A typical playing sequence goes like this: Human player gets the ball. Checking the scanner he spots a player just left of the goal in a perfect position to shoot. He runs. He leaves the ball behind him, realises his mistake and turns and races back towards the ball with a computer player mere inches behind him. He reaches the ball first, turns and presses the button to kick the ball upfield. In the small wait between firebutton and kicking, a computer player whips the ball from his feet. While standing on the spot it passes the ball backwards to another player. Another two perfect passes and the computer shoots a goal straight into the back of the net. Most annoying!

GAINING CONTROL

After their successful *Manchester United* games for Krisalis, developers Teque decided to upgrade their control system for *John Barnes European Soccer.* The basic controls remain the same, with a short tap on the firebutton giving a low ball and a long tap giving a high ball. Holding down the fire button 'locks' a player running in a direction, allowing you to select a direction to turn and kick the ball.

The other players are now far more intelligent than before, and will move into positions to recieve the ball when it is passed. Passing still isn't as automatic as in *Kick Off*, but it does add a neat touch of realism.

BARNES STORMER

Everything moves about on-screen quite fast, and this is a real accomplishment when the size of the sprites is taken into consideration. It's actually a little too fast, though, adding to the overall difficulty of getting possession and keeping control of the ball. The way the ball is kicked is dependant on which way you turn the joystick with the firebutton depressed. Sometimes it will go a 90 degrees to the direction you are running, whilst on others it will go in the direction you're going, but only a couple of yards. *Kick Off*'s controls were complex, but logical and intuitive. *JBES*' controls seem to be merely awkward and unpredictable.

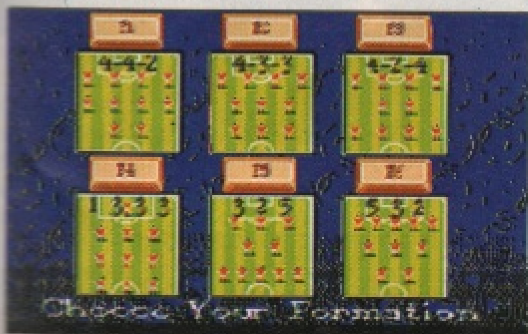
All its graphical thrills aside, *John Barnes' European Soccer* seem to be little more than another unplayable star licence. It has dashes of real inspiration – Teque have created an excellent free kick system. Whenever a player is hacked down in the box, as they pick themselves up your opponents form a defensive wall. As they do so, you are invited to select the taker, and position a handful of attackers where you are aiming to punt the ball. After the opposition has done the same, you are given one more chance to position nother player, before taking the kick – it takes a while to set up, but is very effective.

However, even with brilliant ideas such as this, the game still can't cut it. Excellently presented, *JBES* advances the football game's image and look well into the 90's, but the playability takes us right back to the days of the infamous *World Cup Carnival*.

N SOCCER



Although you can select your team from the eight provided, there's very little difference between them.



During the one-player game, you are allowed to choose both your and your opponent's tactics. This way you can alter the balance of play slightly by weakening their attack.


Whenever a foreign player scores a particularly good goal, play stops as they scoot off to celebrate. During one game, for instance, after scoring a spiffing right-footer, a Dutch player practically did a lap of the field before play could resume!

buyers guide

release date	May 1992
genre:	Football Sim
team:	Teque London
controls:	Joystick, Mouse, Sega Joypad
numbers of disks:	1
number of players:	1/8
hard disk installable:	yes
memory:	Makes use of expanded memory and chips

KRISALIS £25.99

" Nice Legs, shame about the game "

GRAPHICS	89%
SOUND	85%
LASTABILITY	70%
PLAYABILITY	67%

OVERALL 75%

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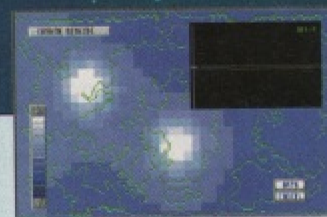
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Constantly monitor the state of your planet.

**Amiga screen shots*
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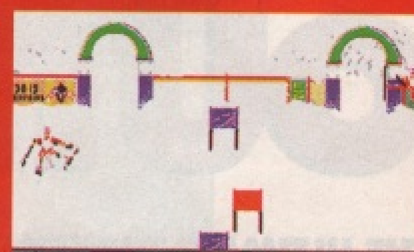
PUBLISHED BY MILLENNIUM, ST. JOHN'S INNOVATION CENTRE, COWLEY ROAD, CAMBRIDGE CB4 4WS

Tony Dillon is on the Piste with a challenger to *Winter Games*. Can Microids steal Epyx's glory – and the Gold medal?

SUPER SKI 2







Above Left: From this suitably snowy scene, any one of the events can be selected. However, the most fun is the Hot Dog event (*Above Right*) which sees two players performing complex moves.

SKI SUNDAY

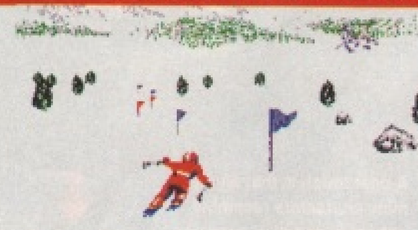
If anyone out there remembers the Epyx series of sports simulations, then Microid's *Super Ski 2* will be a true trip down memory lane. *Super Ski 2* takes the would-be Eddie Edwards through six snow and ice-based events in a race to collect as many gold medals as possible. However, thankfully, Microids have abandoned the stupid Eddie 'The Eagle' Edwards licence that Elite lumbered the original with when they distributed it a few years back.

Up to four human players can compete, and they take turns at the different events, with the unused characters' shoes filled by computer-controlled players. I wouldn't put money on beating them, though, as they seem to have a better idea of what to do than you do!

As the title suggests, most of the events are variants of skiing, and these are split into two groups. The first comprises downhill skiing, the slalom, and the giant slalom, and all three use the same screen layout to depict the action. The centre of the screen shows a sprite-based 3D view from behind your skier as he hurtles down the hill. Both the slalom and the giant slalom involve racing left and right between coloured flags, whereas the downhill event simply involves reaching the bottom of the hill in as fast a time as possible. Points are awarded for the fastest time, but time penalties are added for faults – missing a gate instead of going through it, for example.

EASILY SLED

The final trio of events are a little more interesting. My personal favourite has to be the Bobsled – and Microid's version is certainly the nearest I've ever come to whizzing down a slippery tunnel whilst sitting on a Go-Cart. Viewed from behind the player, it's a dangerous dash along a fast-moving polygon-generated track, following the fastest line possible, whilst climbing the banks of the curved track to hurtle around corners. The feeling of speed is quite incredible, and climbing too high up the sides of the track may result in you flying off the top, flying away into the distance and landing with a sickening thud. This adds a real element of skill and brings the simulation probably the closest such a game has come to reproducing the event – I love it!



Next up are the Hot Dog and Ski Jump events. Hot Dogging is a strange sport which involves making as many flash moves and poses as possible whilst racing down a bumpy track against a computer opponent. The more posey the leap, the more bonus points you score. Finally there's the true test of stomach strength. Speeding down the jump ramp, you have to try to keep your skier balanced as he flies through the air, and then try to land him successfully as he hits the ground.

PRESENTATION CEREMONY

Despite the naff loading screen, the game's presentation is superb, and the obvious time and effort that must have gone into the graphics and animation make the game simply shine. The sprites are large, humorous and full of character. The faces of the bobsled team as they fly off the track and into the ground are a delight to watch, and the stomach-churning grunt made by a downhill skier hitting a tree head on at 35 mph is a real treat for sadists.

It plays well, too, but not quite well enough. For the beginner, *Super Ski 2* is a little disheartening, as the consistently excellent performances of the computer players give little incentive to polish up your act – surely even Franz Klammer takes a dive every now and then. It took me a good half a dozen goes before I could manage to claim a single bronze in an event. Like the many sports simulations preceding this, I doubt even the variety of events or great presentation will add the much-needed lasting appeal for the single player, but multi-player armchair enthusiasts will probably stay on the Piste for a good few weeks.



WHERE IS HE NOW... The original *Super Ski* was imported by Elite, who promptly stuck Skier Eddie 'The Eagle' Edwards' name on the title. Eddie Edwards was a strange character. Like Frank Bruno, he wasn't exactly a massive success, but his fighting spirit and carefree attitude as he continually came last in the ski jump endeared him to the Nation's tabloid readers. Oddly enough, fame soon followed and, in true sport celebrity style, record deals and money galore came rolling in. However, it was only to be a short-lived thing, and Eddie's luck turned. The first major blow came when he was banned from entering this year's Winter Olympics. As a result, his sponsorships and work offers dried up and he is now virtually bankrupt – and, according to The Sun newspaper, is involved in legal wranglings with his parents after he paid for their house and they are refusing to pay him back.

buyers guide

release date	Out now
genre:	Sports sim
team:	In-house
controls:	Joystick, Keyboard
numbers of disks:	2
number of players:	1-8
hard disk installable:	No
memory:	Any Machine

MICROIDS £25.99

"Excellent, but ultimately short-lived fun..."

GRAPHICS	90%
SOUND	87%
LASTABILITY	80%
PLAYABILITY	79%

OVERALL 80%

Mark Patterson is the star of the dodgiest film licence of all time...

PLAN 9 FROM OUTER SPACE

THE ULTIMATE TURKEY

Widely regarded as THE worst film of all time, Plan 9 From Outer Space is perfect for a game adaptation. Which leads me to ask: what went wrong?

What pretended to the film's plot featured a flying saucer crash-landing on Earth. Whilst they awaited its repair, the fiendish crew created a zombie (played by Swedish weight-lifter Tor Johnson) who was under the control of the saucer's Commander – the seductive Vampira. As word gets round about the alien presence, the extra-terrestrials come under attack from the local army-reserves, and their glorious assaults are portrayed by World War II news-reel footage. Likewise, adding to the film's mystique(!), a mysterious cowled figure creeps around – perhaps this suspicious stranger would have had a more prominent part in the proceedings if horror legend, Bela Lugosi, hadn't died early in the film's production (still, the show must go on)...

Unfortunately, virtually all of this mishmashed plot is lost in the game, which instead casts you as a private detective hired to track down six reels from the film which have mysteriously disappeared – it certainly makes you wonder why anyone wants it back! In fact, one of the few things that connects the game to the film is that most of the men look like Tor Johnson's zombie character and the women resemble Vampira. Good ideas, such as role-playing, are noticeably lacking in what is one of the most disappointing licenses of all time.

ALL AROUND THE WORLD

Plan 9 boils down to a very run-of-the-mill point and click adventure. The centre of the screen displays your current location, including any present objects and characters, while in the bottom-right corner is a list of available commands. These include take, drop, inventory and talk, and to use one simply click on the required deed and on the object within the display screen you wish to manipulate. Similarly, striking up a conversation with a character offers you a multiple-choice set of questions or responses, although only one will have the desired effect. Unfortunately, though, the choices are rather obvious with the other options coming across as complete drivel.

CLEVER DICK

There are plenty of locations to explore, among which you'll find Bella Lugosi's house, Rio, a bat-infested cave, and a CIA building. When all six reels are retrieved its up to you to use your editing skills and stick them together, making the biggest turkey of a film ever – blimey, a Private Dick who doubles as a Film Editor, what a rarity! One redeeming feature (although not redeeming enough to warrant buying the game) are the graphics. The backdrops are detailed and atmospheric, and the variations on Tor and Vampira are neat. On top of that are some very nice animated effects which help patch together the somewhat ropey atmosphere. There are also plenty of sampled sound effects, including screams and creaks, which are supposed to surprise the player, but usually just wake you up.

If *Plan 9* had more to do with the film it would have fulfilled many peoples' expectations, even with its many faults. Personally, I'm highly disappointed. It's frustrating to see such a good idea wasted. This is basically a standard, and very uninspiring adventure, with little to make it stand out from the crowd. If you're after a good example of this genre, check out *Elvira 2*, but definitely think twice about buying this.

'Well, don't ask me. I don't know who the weird bloke in the Mac is...'



A neat touch is that all the male characters resemble Tor Johnson, and all the women look like Vampira.

Your search for the missing film takes you all over the World, and the people you meet are far from friendly...







buyers guide

release date	May 1992
genre:	Adventure
team:	Gremlin Ireland
controls:	mouse
numbers of disks:	4
number of players:	1
hard disk installable:	no
memory:	any machine

SPECIAL DEFECTS The dramatic conclusion of the film has the flying saucer exploding – well, burning – in mid-air. During an interview with one of the film's crew this scene was likened to 'two tin plates stuck together, covered in burning lighter fluid, then dangled from a string'. The crew member retorted that it was no such thing – there wasn't enough cash in the budget for tin plates so they used paper ones instead...



GREMLIN £25.99

'A tragic waste of an excellent licence...'

GRAPHICS	84%
SOUND	83%
LASTABILITY	73%
PLAYABILITY	69%

OVERALL 64%

PACIFIC ISLANDS

Empire's big guns return for a Pacific cruise. Mark Patterson fills his Tank...

TANKS A BUNDLE

These days sequels are becoming as inevitable as old-age and the Eurovision song-contest. *Pacific Islands* is one such inevitability, and is the follow-up to Empire's excellent *Team Yankee*. *Pacific* is set around the same time as its predecessor, but in keeping with our current global peace, World War III isn't the reason for the game's many confrontations. Instead, a small army of Russian renegades have teamed up with the North Koreans and inexplicably invaded the small pacific archipelago of Yama Yama.

In a whirlwind blow from fate, you and your platoon happen to be on a ship returning from the Gulf via the Pacific, and, as you're the closest, your unit of sixteen armoured vehicles has been selected to liberate the island. Well I never.

PLAY IT AGAIN

Without wanting to sound too dismissive, I'd spotted *Pacific Island*'s biggest flaw within seconds of loading – it's virtually identical to *Team Yankee*. Okay, so there are loads of new features and ideas, but the similarities are so great, they aren't something that can be easily overlooked. The graphics, for example, are extremely similar, as is the control system. In fact, with the exception of a few more user-friendly panels, the only major changes have been to the scenarios which are brilliantly inter-related, and the addition of a screen which lets you select the next bit of island you want to attack. Anybody who owns *Team Yankee* and buys this may feel a little



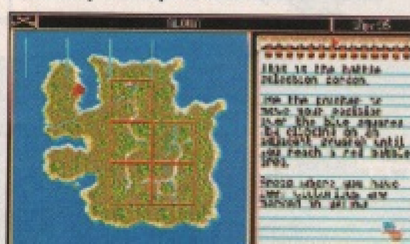
Above: The main game screen is split into four quarters, each one displaying a view from one of the four different units under your control.

TANKS A MILLION

You have four different types of vehicles on your side for the conflict, some of which are superior to others. Your mainstay is the M1 Abrams, which combines firepower with protection, laser sights, smoke generators and a fair turn of speed. Next in line is ITV, which is nothing more than a missile launcher on wheels. While not very well armoured, its fearsome TOW missiles can devastate enemy tanks. Bringing up the rear are the M2 Bradley and M113 fighting vehicles. These are lightly armoured troop carriers with a fair amount of firepower, but not much in the way of armour, so they're best left for mopping up operations.



Mission briefings detail the course of action necessary to complete each level.



cheated. Obviously, Empire were also concerned about this, which is reflected in a chapter in the manual which explains the differences between this game and its predecessor – for all those who hadn't noticed, I suppose. A better idea may have been to release the game AND some sort of scenario data disk for the original. As it stands, this is dangerously similar to the original.

MAKING ENDS MEET

One prominent new feature calls on you to remove your battle-gear and play accountant. Each time an enemy unit or building is destroyed, you earn yourself a cash bonus. At the end of a mission, this money can then be spent on repairing your vehicles and buying ammunition. Here's the sneaky bit: as the game progresses, the enemy become tougher and you expend more ammunition and take heavier damage, but you don't always get enough money to cover all your expenses, so you end up trading off shells for tanks or vice-versa – although it is possible to purchase a slightly-used second-hand model (presumably used by a little old Lady who used to drive it to Church each Sunday). To tell the truth, I was rather put off with this feature. I may be on my own here, but I'd always thought a tank commander's job was to shoot things, not balance a budget. I'm quite content with wasting the enemy, I don't need any of the financial rubbish – I'd rather leave that to the bureaucrats, and it comes across as similarly out of place here.

PACIFIC ISLANDS



BLOW BY BLOW

There are five Islands to free, and each is divided into a series of mini campaigns. Normally, you're called upon to achieve three or four objectives to complete a mission. These usually have your platoon destroying a communications post or some other enemy site, while eradicating every enemy unit you come across. To do so, you have sixteen vehicles, armed to the axles with missiles and machine guns. These sixteen are further divided into four squads of four. The Koreans are wise to your landing, though, and have prepared by laying mine fields, digging tanks in, and sending out scouts. If any of your vehicles are spotted by an enemy patrol you have to act upon them a bit smartish, as they usually scurry away to warn their friends that a large bunch of Americans are on the way.

For a little extra help, you also have a few artillery units who'll take advance bookings. Before you embark on a mission, you can ask for a minefield to be laid or smoke bombs, high explosions or multiple-warhead shells to be fired at a particular location at certain times. The down-shot of this is that it's very easy to advance faster than you thought, and end up on the receiving end of your supporting fire. If you want to take advantage of this feature, it's best to plan ahead and keep to a very strict battle plan. That's not as simple as you might think, as the temptation to keep on pumelling the enemy is a great.

CONTROL SYSTEM

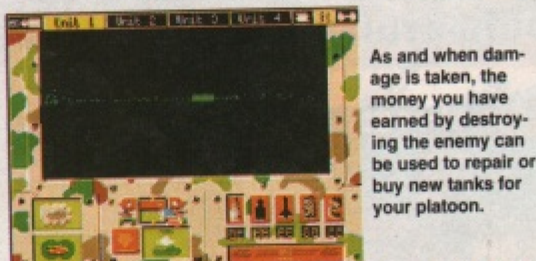
One of the notable features of this, and of course *Team Yankee*, is the excellent control system. Creating a system that allowed for adequate control of sixteen vehicles split into four units was a major achievement by the programmers, and they have pulled it off admirably. The game is played via a series of three displays. These include the gunner's-view, where you control the tank and fire its weapons; a map screen where you select your objectives and guide your other units; and the status screen which shows how well each platoon is faring.

The main game viewpoint has the screen divided into quarters, each one showing a gunner's-eye view from the command tank of each platoon. When something happens to a platoon, you enlarge each display to fill the screen and consequently take in more of the action. All the commands are issued through a point and click system via a series of simple icons, so there's almost no need for the keyboard. This goes a long way to making the game far more enjoyable as you end up not having to think about issuing commands. In addition, the all-imprtant weapons are equally simple to use, and can be switched between quickly and smoothly.

GUNNING FOR THE ENEMY

It's important to choose the right weapon for the job. HEAT shells pack quite a punch against buildings and troop carriers, but are ineffective against heavily-armoured vehicles. When you're faced with such a beast, you can resort to SABOTs, which consists of a depleted uranium rod propelled by a huge charge which powers it through the thickest armour. For the ultimate in tank-annihilation, though, there are TOW missiles. These can only be fired when the launch vehicle is stationary, but have almost twice the range of their counterparts, are very accurate and hugely powerful.

Should you get trigger happy and waste your missiles, you can fall back on your machinegun, which has an unlimited supply of ammo. It's quite effective against lesser vehicles, but try to face off with a tank in it and you'd be better off raising the white flag.



As and when damage is taken, the money you have earned by destroying the enemy can be used to repair or buy new tanks for your platoon.





Although the sprites are a little chunky, they move well and are instantly recognisable depictions of the real thing.

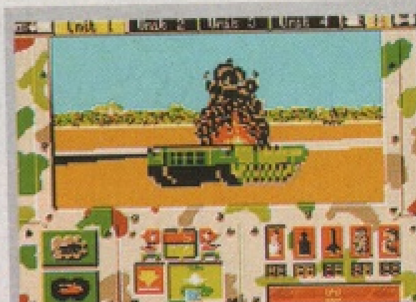
As with the first game, the graphics are excellent. The programmers have opted for sprite-based tanks, and although this results in a loss of definition, they are all perfectly recognisable – in fact, while the programmers were demonstrating the game at a show earlier in the year, a tank enthusiast came along and reeled their names off as they trundled on-screen! More importantly, though, the update is fast and smooth, too, keeping the action trotting along at a fair rate.

Apart from the ridiculous budget-managing aspect, this is a good game. If you own *Team Yankee*, and are coming to the end of its missions, you may want to take a look at this. Personally, I think they're too similar. Additionally, the first game's rough edges have been eroded, and there is a great deal more to do in *Pacific*, but I still can't help but think there's not enough difference between the two. I can understand the coders using a successful game engine again and again, but why not opt for a totally different scenario – space, perhaps.

Still, if you don't have *Team Yankee* in your collection, then I'd recommend *Pacific* without hesitation. It's absorbing, easy to play yet still taxing, and second only to MicroProse's *M1 Abrams* in the Amiga tank-sim top ten.

buyers guide

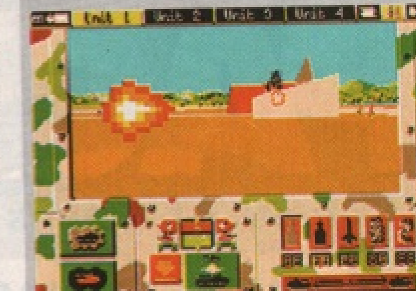
release date	Out Now
genre:	Tank Sim
team:	Steven Green (coding) Kevin Ayre (graphic design) Richard Horrocks (additional coding)
controls:	mouse, joystick
numbers of disks:	2
number of players:	1
hard disk installable:	Yes
memory:	1 Mb



As battle hots up, the remnants of the enemy tanks are left to smoulder...



Such is the realism of *Pacific* that you can even surround yourself with a smoke screen.



If the enemy aren't immediately visible, an infra-red display can be called up.



By blasting holes in the runway, further air attacks can be curtailed.



The mission roster, where your victories and progress are monitored.

EMPIRE £34.95

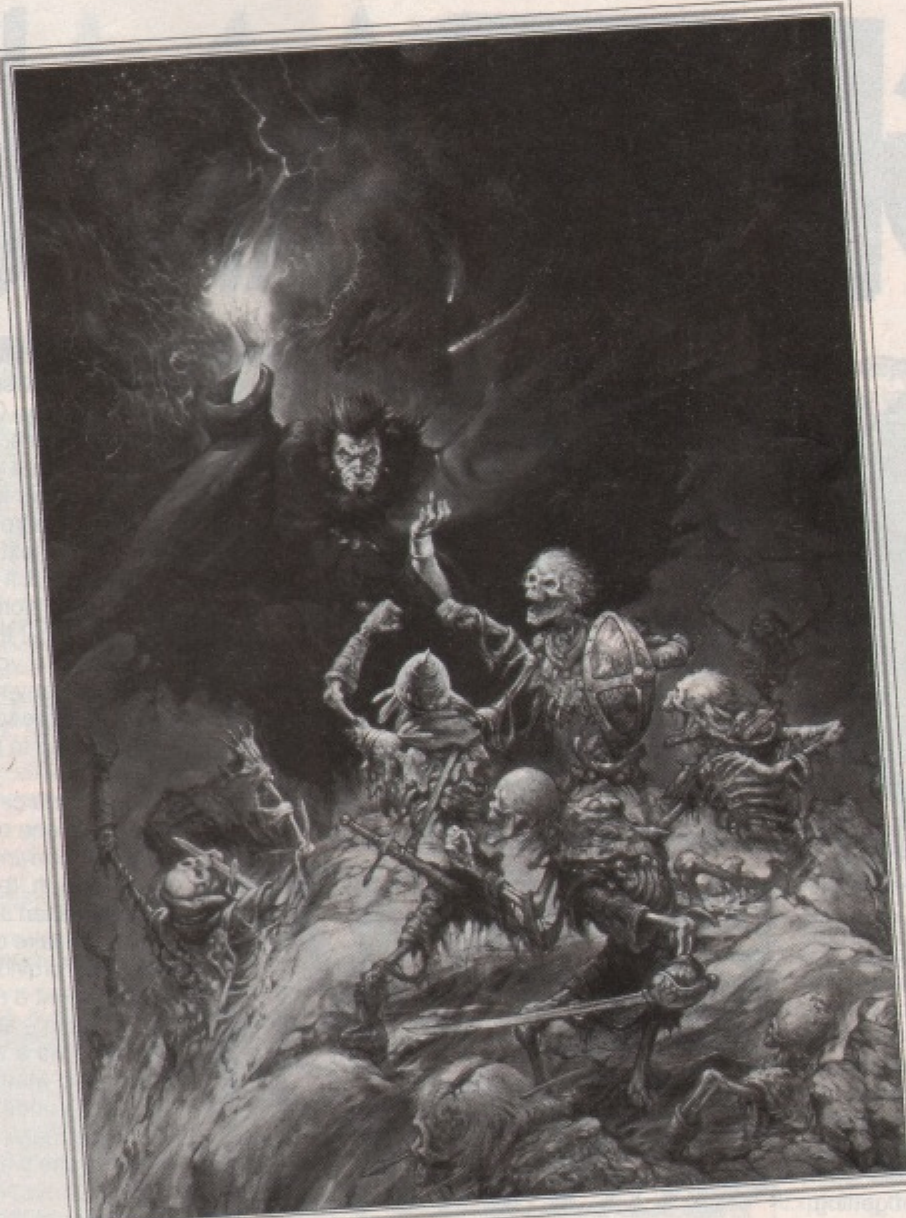
"Too similar to the original, but still great fun. . ."

GRAPHICS	86%
SOUND	80%
LASTABILITY	87%
PLAYABILITY	82%

OVERALL 83%

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FORGOTTEN REALMS | TSR | SSI STRATEGIC SIMULATIONS INC | U.S. GOLD





Dungeon Master, Steve Keen, explores the bright and attractive world of *Might And Magic*. Are these the best graphics yet to appear in an RPG?

MIGHT AND

NEW BEGINNINGS...

After fighting your way through the first two *Might And Magic* adventures, it's only natural to assume that you're hungry for more. The evil forces of darkness are back and it's guaranteed that someone, somewhere, is going to be calling on your extraordinary services again, very soon.

Might and Magic's game engine has been given a thorough going over. The combat system has completely changed, and although it's far from perfect, it's much improved from its flawed predecessors. Slashing its way in on six disks, the game is at least four times bigger than fellow U.S. Gold stable-mate, *Eye Of The Beholder*, and an incredible clue book consisting of 250 pages has already been put together in anticipation of Joe Public's problems.



Only the chosen ones will be able to enter the inner sanctum of the Magician's Guild. But once you've managed to get in, your problems are greatly eased.

BATTLE COMMENCES

The expedition commences at the entrance to the watery catacombs of Fountain Head. You are given a well-balanced, predetermined party of six characters, including a Dwarven Barbarian, a half-Orc Knight, and a human Paladin. The setting provides a steady introduction to the game world, and eases the player into the intricate levels. To begin with, nothing will attack unless you're provoking it, and the main objective is to seek out the various masters of the arts to improve your skills and guide you through the later stages. These experts include a Cartographer, who will train you in the art of map making; the Pathfinder, who imparts knowledge of the fastest ways to pass through the game's dense forests; and the Swimmer, for those of you afraid of getting your hair wet.

As well as the creature content, the countless corridors also hide all manner of secret rooms and partitions. Once they are located, you can click on an icon in the control panel to break them down and pillage their contents. Creatures lurk behind every wall. The first stage monsters are limited to rather wet Rats who squeak a lot and do very little else, but on later stages they get rapidly tougher. Whilst the first batch of nasties can be fought off using a combination of fire spells and brute force, they often group together and consequently cause umpteen times' more trouble.

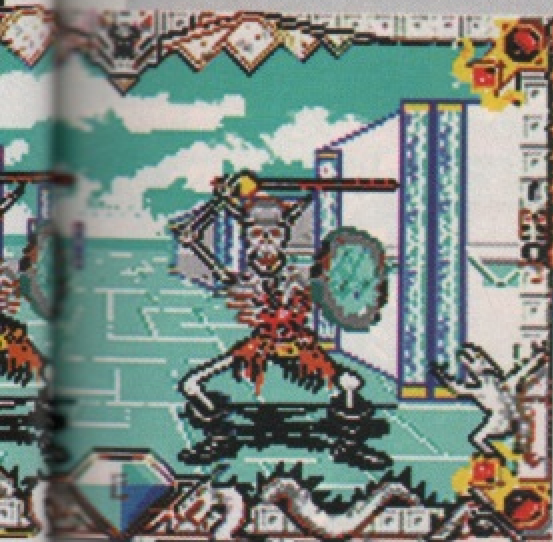


ONE STEP BEHIND...

All magic users are advised to keep their spells at the ready. Combat is slow at the best of times, and another bad point is that you can't choose which character is going to attack next. Instead, a yellow box highlights the player next up to fight, and you must wait until it selects the one you wish to use. Normally, this wouldn't be so bad, but the computer gets rather confused if you press the mouse button too many times. As a result, when it finally reaches the character you wanted to pause on, it often skips past.

If you're lucky, you can obtain a spell from one of the fountains by throwing a coin into it. In addition, there is a resident Magician's school which will take on young hopefuls, providing that they have bought a membership to the Guild – and this can be found via a wandering Sage. The Magician's Guild is used to understand and learn the magical properties of the game's many spells, and also reveals the mystical power of the countless gems which are dotted throughout the play area.

As you travel through towns it's advisable to help people as you may reap great rewards. Tasks completed on behalf of others will either result in materialistic gain or aid in future puzzles. You start off with 2800 gold



They may look like they've lost their trousers, but don't say so straight to their faces



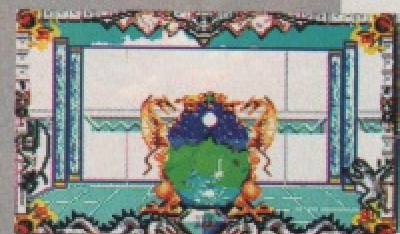




The computer maps the world out for you as you progress. 'X' marks the spot where you are at all times and thankfully does away with pens.

THE DEVIL YOU KNOW

The enlarged combat/world window isn't just a pretty facade. The ornate devils provide a useful function. The Sprite to the left of the screen flaps when a levitation spell is in operation, whilst the Imp on the right waves his arm up and down whenever a secret door or entrance is present. Likewise, the Gargoyle's face at the top of the screen screeches when it senses danger. There's also a self-mapping feature located on the main control panel which can be accessed at any time to tell you where you are.



SALE OF THE CENTURY

In every settlement, there are locations which will provide help and assistance. However, nothing in this world is free and it's advisable to have a large amount of cash ready before bothering the store owners. Fine's Fineries sell armour and weapons, as well as that little extra something for the weakened. The Lonely Hearth allows you take a breather, get a drink and some grub, whilst eavesdropping on some rumours. Unlike many other RPGs, whenever you rest your party will be restored to full health within six seconds. However, a resting party are sitting ducks when attacked, as they'll continue to sleep until the characters are hit, which often leaves one hero to face the enemy alone.



MAGIC 3

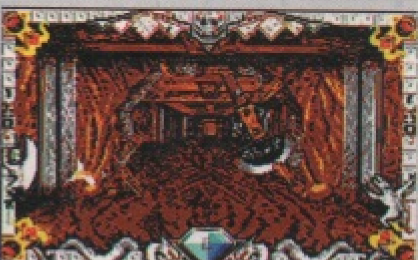




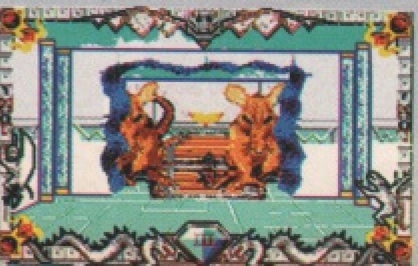
Screamers are pretty low in hit points, but they can do huge amounts of damage very quickly.



Take a well earned rest and role a new character at the 'Lonely Hearth' semi-retirement home.



The underground caverns are full of traps. Good timing and a keen eye are needed here if you're to get through alive.



pieces which are rapidly eaten away by regular visits to equipment shops. In addition, if you're not happy with your team members' statistics, you can visit the Forty Winks Inn and hire another gang, or create a replacement. Once the computer has rolled the new warrior it'll even indicate the best occupation for them to follow, taking into account their new skills.

MAGICAL GRAPHICS

Might And Magic 3's graphics are nothing short of fantastic. The detail used to depict the play arena is suitably subdued, and makes the monsters seem even more lifelike. Trolls can be seen breathing and you can even see their stomachs moving in and out as they attack. Globular bubble monsters undulate towards you, creeping across the floor, boils bursting randomly as they approach. The fountains that adorn the first level enclosure actually look like they're comprised of digitised pictures of women's faces, rather than the expanded pixelized renditions they actually are – and the overall effect is simply excellent.

All the usual inventory screens are included, as well as the endless lists of carried items. However, I never came across the need to pick anything up using the cursor, as any items acquired were automatically placed in my inventory. The on-screen movement controls were a bit of a handful at first as there aren't any separate icons on-screen; instead, you must place the cursor at the very top of the game window to move forwards and to the sides to move left and right. The position for turn left and sidestep are very close together and unless you take real care, it's easy to become disorientated, especially in the rambling wilds outside the towns.

SIZE IS EVERYTHING...

Exploring the towns, forest planes, villages, castles, mansions and underground labyrinths, it's easy to understand just how large the game's play area is. A staggeringly simple intro, consisting of some thumping music and a disembodied head floating in space, grabs your attention from the start. This talking semi-skeletal face is that of Sheletem, your nemesis, and he recounts in detail his plans for you during his third challenge in crystal-clear disigitised speech. There are no real fancy graphics, but the combination of music, facial animation and the lengthy samples is stunning, and sets the scene perfectly.

The programmers have gone to great lengths to maintain the tradition of the *Might And Magic* series, and this is made obvious by the game's distinctive style. *Dungeon Master* freaks take heed: this is not necessarily for you, as the game's roots are placed firmly in the *Bard's Tale* style of adventuring. Whatever your preference, though, this is top quality stuff that you're not likely to tire of quickly. With over ninety fully-animated and detailed monsters, I doubt if many of you will finish it within months of constant play – but it will be fun trying!

buyers guide

release date	April 1992
genre:	RPG
team:	New World Computing: Louis Johnson, Bonita Long-Hemsath, Julia Ulano (Graphics) Mark Cauldwell (Code) Todd Hendrix (Sound)
controls:	mouse
numbers of disks:	6
number of players:	1
hard disk installable:	yes
memory:	1Mb

US GOLD £25.99

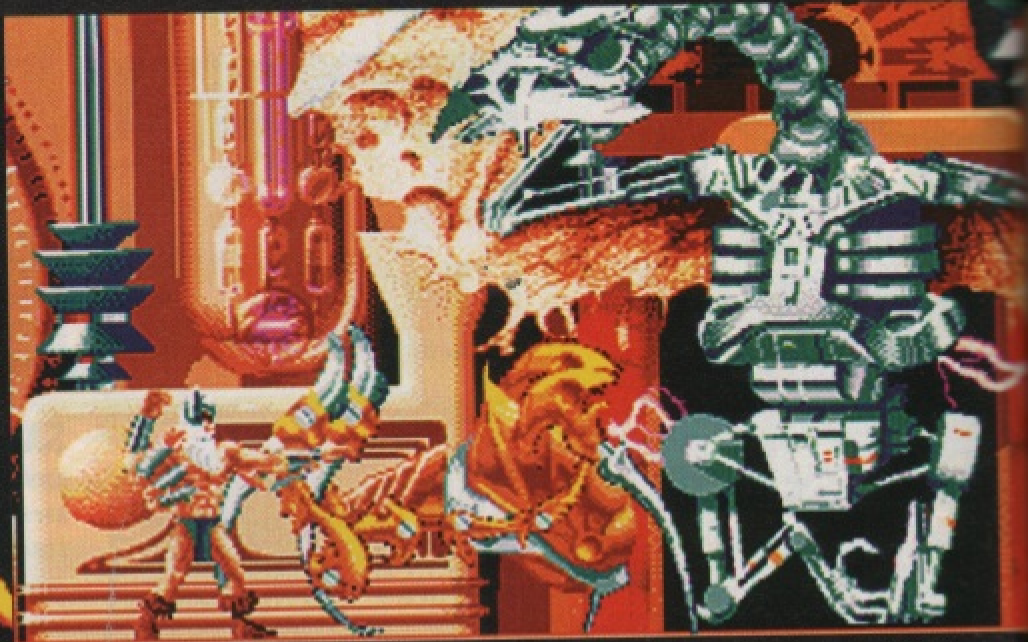
"Great depth equalled by incredible graphic detail"

GRAPHICS	91%
SOUND	83%
LASTABILITY	89%
PLAYABILITY	80%

OVERALL 90%



Hopefully, you won't see this screen very often as it signifies 'Game Over'. The die-hard Stormlord has three lives, but there are plenty of life-extending coins throughout the levels.



These rate amongst the biggest and most animated end-of-level guardians ever seen. Not only are you attacked by a scuttling crab-like creature, but the huge robot swings his head whilst large plasma balls come at you.

DELIVER

Deliverance has everything a sequel should have – better graphics, improved sound, and a larger play area. But does it play better asks Steve Keen?

RETURN OF THE WARRIOR

The Stormlord has returned, but anyone familiar with Raff Cecco's Gnome-like hero won't recognise the star of 21st Century's, stunning platform-based beat 'em up. The only thing that this sequel owes to the cutesy original is the main sprite's name. I don't know what they've been feeding him down in rural Oxfordshire, but he must have undergone some serious steroid treatment.

Not only is the Stormlord back, but his arch enemy – the evil Queen Bahd – returns, too. She's back abducting the fairy guardians of Llyn Cerrig , and has also teamed up with the Devil himself to make sure that her plans won't be thwarted again. Once more, your task is to rescue the imprisoned little folk, before the haggard crone drains the realm of its life-force and uses it to restore her body to that of a young woman.

To help you on your quest through the four-level world, you have been supplied with an unlimited amount of battle-axes and a set of five Opal stones which act as beacons and make the exploration of the game's platformed Castle, Pits of Hell, and Enchanted Forest a lot easier. Despite the game seeming rather short at four levels, there's plenty to do. Additionally, the gem's minute size belies their true importance, as they will prove invaluable when it comes to plotting a path through the tortuous stages.

STUNNING...

It has to be said, if you haven't gathered from the screenshots already, that *Deliverance* is graphically superb. Owing more to *Gods* than 21st Century would care to admit, the hanging birds and bats have come straight from the Bitmap's classic. However, the game is saved from being branded a total rip-off by its fresh approach and excellent additional touches. Each level features a variety of mutated beasts to slay, and they come in abundance.

Resembling jaundiced experimental baboons, the first level's boys are B-I-G. Swinging from rafter to platform, they emerge from every side looking to batter you into a pulp with muscles that would make the Incredible Hulk take out a membership at Gold's Gym. Your sprite's no Pee-Wee Herman, though, and has two forms of defence. Holding down the firebutton you can spew forth a stream of twirling battle-axes which will either knock the Gargoyles out of your path and onto a lower level or simply kill them. Alternatively, whenever the firebutton is held down and the joystick wiggled up and down, the Warrior goes crazy-ape and enters 'Viv Richards Mode' as he grabs his axe with both hands and Moulinexes the ghouls into freshly-sliced pieces.





In the Enchanted Forest anything can happen and what looks like a simple tree suddenly spring into life ready for the kill.

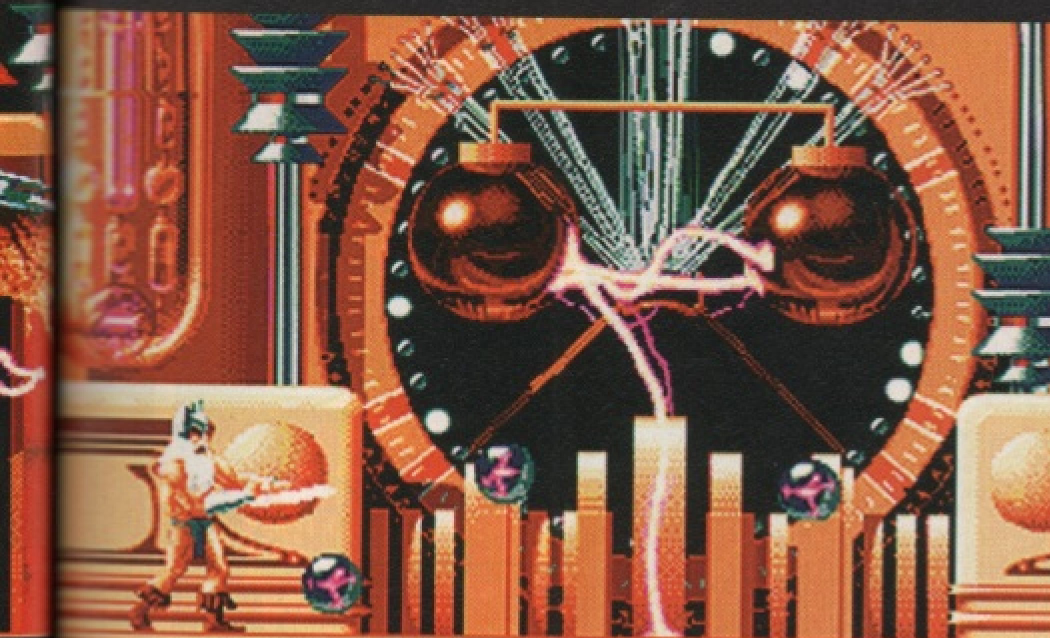


Other nasties include massive spiders which scurry through the first level corridors. These climb walls and ceilings in an attempt to drop on you.

Thankfully, and adding to the game's already-impressive look, the size of the sprites hasn't compromised the amount of animation and as the whirling dervish does his stuff, there's plenty of squirming and gratuitous blood.

PROGRESS

An impressive amount of detail has gone into the objects which the hero can interact with. It's impossible to progress through the levels without keys, and these are located inside the ornate cupboards



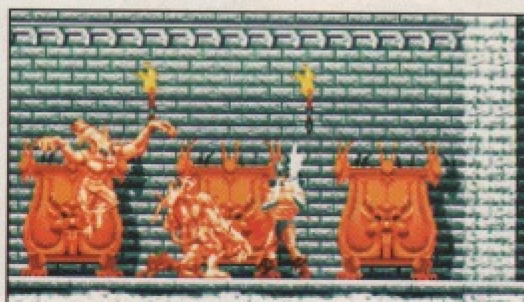
Here the warrior displays his incredible cricketing skills. Stepping up to the crease he dispatches the exploding spheres with Botham-like accuracy. A perfect time to utilise the character's close combat skill.



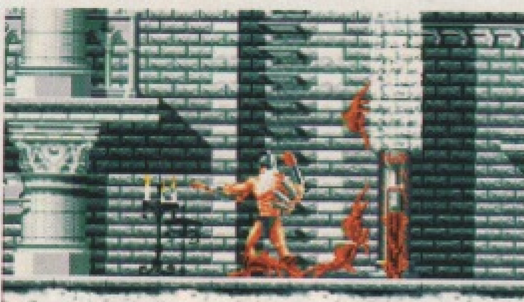
The final level sees the forces of good and evil battle it out to the last. The game principle remains the same and you still have to rescue fairies, but here they're little angels and serve to power up weapons.

spread throughout the complex. Not all house what you want, though, so expect the unexpected – and the deadly.

True to platform form, completion of every level rewards the Warrior with a massive guardian to contend with. The first is a huge green Dragon which thunders towards you breathing the most realistic fire I've seen in any game. The coiled monster's flames burst from his nostrils and swirling, smaller sparks tickle the air as they disperse in flickering clouds. He's easy enough to kill, but worth coming back to get a closer look at just to admire the attention to detail. Once defeated, the Guardians implode gradually in a series of minor explosions until their innards are displayed amidst the rotting remnants – it certainly beats fading from the screen politely! In addition, every defeated monster – Guardians included – leaves coins in its wake which are used to restore any lost health, so there's no excuse for not getting in close.



There are lots of surprises and the intelligent monsters don't just walk on from the sides but drop from the roof too.





Every floor has to be explored very carefully as you never know what's going to leap out at you. Avoid the fires of Hell.



CHANGE OF PACE...

The final stage takes place in Heaven and the game changes style dramatically. Suddenly sitting astride a huge metallic, leather-winged serpent you embark on a horizontally-scrolling blast. After the splendour of the first levels, this is a real cop-out. All the fast-moving nasties are extremely tiny compared to their platform-based counterparts, but, size apart, they are still exquisitely drawn and the level very playable – with loads of the smaller angels available to collect and power-up your steed.

21st Century are making a name for themselves with quality graphics. *Rubicon* started the trend, featuring excellent sprites and backdrops but poor gameplay. *Deliverance* is also well endowed graphically, but this time the all-important gameplay is there, too. Anyone who can produce quality of this scale on our home machine deserves all the praise they can get. Probably the best sequel I've ever seen, *Deliverance* doesn't offer anything new in the gameplay stakes, but its presentation easily lifts it above *Gods* and the like. It's so gorgeous to look at that you'll want to play it until you complete it – and even when you witness the impressive end-of-game sequence, you'll be back for more. Pure sequel magic!

buyers guide

release date	**Out Now**
genre:	**Hack 'em up**
team:	**Kim Goossens (Graphics) Peter Verswyvelen (Code) Bent Nielsen (Sound)**
controls:	**joystick**
numbers of disks:	**2**
number of players:	**1**
hard disk installable:	**no**
memory:	**1Mb**

21ST CENTURY £25.99

" A stunning-looking and addictive sequel... "

GRAPHICS	94%
SOUND	80%
LASTABILITY	79%
PLAYABILITY	90%

OVERALL 85%

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APIDYA

Blue Byte bite back with a bug-infested shoot 'em up extravaganza. Dan Slingsby takes the lid off this particularly dangerous Hornet's nest.

DAMN WEIRD

The company behind such varied releases as *Battle Isle* and *Atomino* have now turned their attentions to a Japanese-inspired shoot 'em up. And it's weird.

The game's intro begins with an evil warlock casting a spell which sends thousands of insects rampaging across the country he unjustly rules. As the swarm sweeps over the land, inflicting death and misery in their wake, two innocent cottage dwellers come under attack. Ikuro survives, but his wife is badly bitten and, as her life slowly ebbs away, her young lover swears revenge on the DarkLord. All of this is rendered in Jap-style graphics and is quite superb.

FIVE STAR ACTION

The action takes place across five levels, each of which is made up of three stages. Each level has a theme and related nasties, with bonus points accrued for each completed stage and special bonus stages for successfully capturing special sprites. The first of these levels is set in a meadow crawling with bugs, insects and other creepy crawlies. There are both air and ground-based nasties to avoid and all are capable of spitting nasty venom into the air. Starting with five lives, an additional life is granted at a set number of points, but just one hit is fatal to your small wasp. Various power-ups are available in the form of small red flowers which are released after certain nasties have been destroyed. Once collected, these can give a variety of weapon enhancements, including bombs, quick fire, deadly 'stinger' missiles and triple-shot. There's also a drone fighter add-on which hovers about your main sprite and give you some much-needed extra firepower.

The smart intro evokes a Japanese feel to the game and is certainly eye-catching.

Next, it's straight into an underwater sequence which takes place in a gigantic pond. Aquatic animals of all shapes and sizes inhabit the gloomy depths but, if things become too hectic, it's possible to fly back above the surface. Although this might get you out of trouble, there are also airborne opponents to counter as well as rocks and boulders. Be careful, or you just might end up piling into a rock face, your splattered remains reminiscent of all those squashed insects that collect on a biker's teeth after a long ride.

MAKING A STINK

The sewer section comes next, complete with empty bottles and cigarette cartons as well as deadly toxins and skeletal piranhas. Come into contact with any of the poisonous vapour clouds down here and the screen flips, reversing the controls and making things twice as difficult. Inexplicably, by the fourth level, your tiny wasp sprite has gained some metallic armour and is now pitted against a swarm of robo-bugs and laser defense turrets. It's very reminiscent of *R-Type*, which is no bad thing, but it comes as a complete contrast to the rest of the game. It's undoubtedly the best level, made up of a number of maze-like tunnels, and incorporates some excellently rendered cybermutants and android opponents. The final level pits you against the most dangerous creature the evil lord Hexaa ever created. Negotiating their nesting grounds, your final task involves their bloody destruction and the successful retrieval of the antidote for your ill girly.

Apidya is a competent blast, rightly enough, and some of the 32 colour graphics are very inventive, but it's not really in the top ranks of the genre. There are the usual end-of-level Bosses to take care of and there's a weirdo bonus stage which involves a mad scramble to collects as many bonus angels as possible whilst avoiding the stage's deadly devils. At the start of the game it's possible to choose from four degrees of difficulty, a two-player simultaneous mode, and when an extra life should be awarded.

Two-years in development, *Apidya* is an engrossing blast. Its intriguing design means you're actually getting five mini-games in one, which can't be bad. It's not going to set the world on fire, but it's no damp squib either.





Above top: The garden throws up all kinds of adversaries, from caterpillars to cuddly moles. *Above*: Level three is set in a sewer, populated with deadly waste products and other hazards.



Above: Fire a deadly dart to finish off the huge fish. *Below:* The action hots up in level four's deadly robotic level.



buyers guide

release date	20th April 1992
genre:	shoot 'em up
team:	Blue Byte
controls:	joystick
numbers of disks:	2
number of players:	1/2
hard disk installable:	no
memory:	1/2 meg

COMING ATTRACTIONS

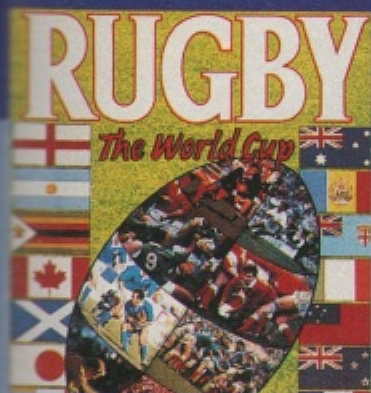
German-based Blue Byte, founded in 1988, have deliberately kept a low profile since their inception, preferring to have their games distributed by several European publishers such as UBISoft and Psygnosis. All that's about to change, though, thanks to an aggressive new marketing policy. From now on, Blue Byte games will be distributed in the UK by Kompart UK Ltd., run by industry veteran, Duncan Lowthian. *Apidya* is just one of several new Blue Byte games scheduled to appear over the coming months. Other offerings include *Battle Isle II*, the sequel to one of the most popular strategy games of recent months, *Ugh!*, a two-player platform game set in the Prehistoric times, and *Starlight One*, a 3D space-trading game.

BLUE BYTE £25.99

'Varied Japanese-inspired shoot 'em up'

GRAPHICS	83%
SOUND	78%
LASTABILITY	78%
PLAYABILITY	84%

OVERALL 80%

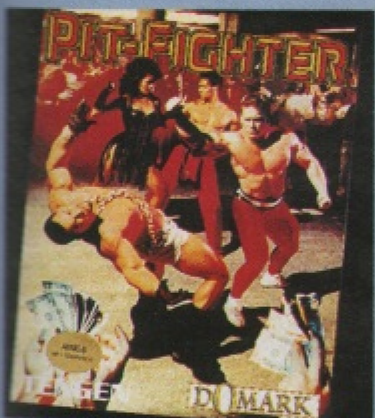


RUGBY - THE WORLD CUP

Rightly likened by CU sim buff, Mark Patterson, to Kick Off with an oval ball, Rugby - The World Cup will have you clutching the controls in anticipation.

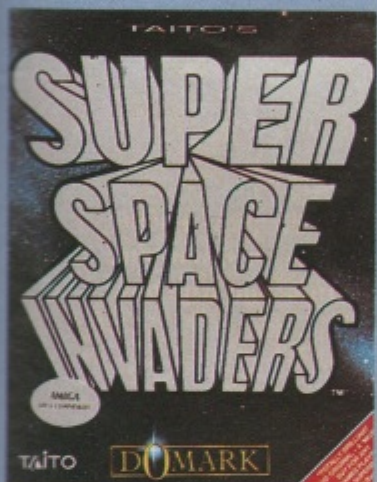
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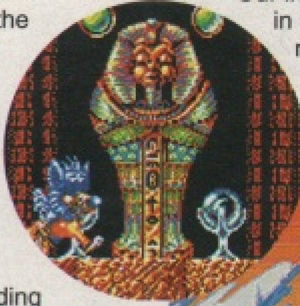
FIRE AND ICE

It's been ages, but Graftgold have at last returned, and their long-awaited platformer is here. Mark Patterson wonders if *Fire And Ice* will make him blow hot and cold...



RENEGADE'S RESCUE

Following the sinking of Mirrorsoft alongside Captain Bob, it looked as though *Fire And Ice*, Graftgold's much-hyped cutesy project, was destined to join the ranks of *James Dean* and *Mars Cops* in the realms of never-released games. However, in a blaze of wheeler-dealing, Renegade have rescued the title and it's scheduled for an imminent release.



In terms of content, *Fire And Ice* is a bit of a step back in time for Graftgold, whose co-founder and veteran programmer, Andrew Braybrook, is famed for some of the most outstanding games of the 80s. Andrew is the man behind THE classic C64 blaster, *Uridium* AND the all-time Amiga classic, *Rainbow Islands* – excellent credentials indeed, and *Fire And Ice* will only enhance his reputation. It's a platform game in the tradition of Braybrook's *Gribbly's Day Out. Ice*'s main character is a long-nosed Coyote, and bears a slight resemblance to the Sheep-napping Wolf from Hannah-Barabera's 'It's The Wooluf' cartoon and Road Runner's arch nemesis, Wile. E. Coyote.

As can be expected, the plot is thinner than Paul Daniels' hair. The Coyote is at home in the Arctic, playing the piano and minding his own business, when all the animals in the world suddenly go crazy-ape and start attacking anything that moves. It transpires that a mad Egyptian magician is the villain causing all the animals to go loopy, although it isn't explained why the Coyote is unaffected, or why he decides to travel the world and defeat the wizard.

PUPPY LOVE

Our intrepid canine isn't alone in his quest, though, and most levels feature stray puppies who'll make an adoptive parent out of any passing hero. On stumbling across one of these, it will dutifully follow your every move, whilst repeatedly shooting in a sporadic manner. As the puppies have a tendency to hang around on high platforms, though, and travel in huge leaps, they often take out enemies way before you reach them. For all their usefulness, though, they are very slow and it's quite easy to leave them behind. Abandon them, or leave them on part of the screen where they can't reach you, and they let out a plaintive digitised bark, presumably to make to you feel guilty – and so you should.



The higher parts of the screen are linked via magic ladders which appear when a special button is shot. A set of icy steps then miraculously appears, and the Coyote must scale them before they melt.



Diving underwater, the nasties appear in the form of Squid and Turtles. Appropriately, the Coyote dons a pair of goggles as he explores the deep, murky depths.



WHAT JOY! Like several console-style games of late, *Fire And Ice* supports a joypad option. By plugging a Megadrive Joypad in to the joystick port, the pad's extra button will come into play. Instead of holding down fire to unleash your super-weapons, instead the 'B' button is used, saving time and hassle. However, quite how many Amigas who will rush out and buy a pad is a different story. Still, it's a nice touch...

The Coyote is armed with a strange weapon which is obviously a phlegm-based freezing agent. For as the nasties attack him, he simply spits at them and they are instantly frozen into cartoon-style blocks of ice. In addition, these hack-attacks can be enhanced with several types of special spitballs which are liberally scattered throughout the game ready for collection. These take the form of invisible blocks which appear whenever a stray spitball hits them. Further shots then produce extra supplies which are added to the Coyote's inventory at the top of the screen. These enhancements include wide-range fire, which shoots eight globules in a wide arc; a super-large gob, which explodes a few seconds after being fired; and several other types, including a shield which proves particularly useful.

ALL AROUND THE WORLD

Our Coyote's adventures sees him travelling across seven stages. Starting at his home at the North Pole, it's followed by – amongst others – a jaunt through Scotland, before eventually moving on to South America, and eventually the Sahara Desert. Each of these varied areas is divided into several sub-stages, making thirty levels in total. There are also a cluster of secret screens awaiting discovery which, whilst not essential to the game's completion, ➤

FIRE AND ICE

usually contain bonuses and special weapons. Oddly enough, although the scenario tells of the Magician's effect on the world's animals, their ferocity has also rubbed off on to the vegetation. Each locale has its own strains of flora and fauna, which are also out to get you. If that wasn't enough, in the arctic you also have to fight off Eskimos, walruses, penguins, and little creatures on skis, whilst in Scotland there are sword-wielding troopers and little fuzzy creatures (which I'm assured are baldy Sporrans who resent never being worn) which leap out of trees and try to stampede the Coyote.

One of the first things that struck me about *Fire And Ice* was the quality of the animation – it's nothing short of excellent. Even the smallest characters – such as the dejected Sporrans in Scotland – look great. What's really surprising is that most the effects are achieved with very few frames of animation. The Coyote is also excellent, and features great attention to detail, such as his mannerisms and his facial expressions. Almost matching the sprites in terms of quality, are the fantastic backdrops. The ice-world is the plainest of the lot, but, even so, features foreground parallax, and shaded objects for the Coyote to walk behind. Nice touches, even if they aren't always immediately noticeable.

The music is another major feather in the game's already bulging cap, and, most of the time, it reflects the current setting. There's a highland jig in Scotland, for instance, and a suitably Arabic tune in Egypt. It has to be said that some of the tunes start to grate after a while, but luckily there's an option to play with just the sound effects, so I can't complain too much about that.

TOUGH LUCK

For the completely awful games player who may never escape the frozen confines of the North pole, there is a rather neat Trainer mode. This lets you play any one of the first four levels, with the benefit of eight lives. It comes in most useful for the South American stage, which is appallingly difficult and all of the eight lives will be needed if you are to see the later stages. In fact, this is where you'll come across *Fire and Ice*'s biggest problem: its mixed playability. The first three levels are relatively simple, but on entering stage four, things get ridiculously tough. This is almost excusable, though, as there's not much else to fault in the game and practice will see you through.

This is one of the best platform games I've seen on the Amiga. It's extremely playable, the graphics are nothing short of fantastic, and there are so many great ideas and smart touches throughout that you need to have an extremely keen eye to notice them all. Despite its slightly 'kiddie' look, *Fire And Ice* is extremely challenging, and, once you've completed it, you can always go back and attempt to find all the secret levels.

With *Fire And Ice*, Graftgold have made the best comeback they could have hoped for. With *Paradroid* never appearing, they needed to bounce back with a real smash. I'm pleased to say – as I'm sure Renegade are – that they've got one.

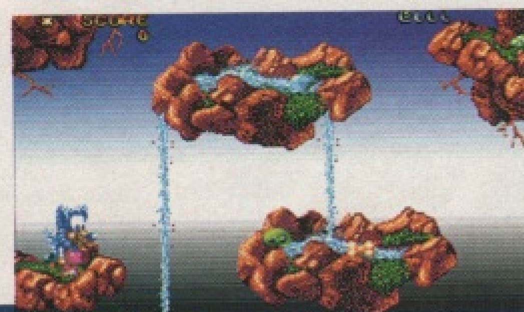




Above: With the change in backdrops, the sprites are similarly altered. Perhaps the most impressive stage is the jungle-based scene, where natives pop up to lob spears at the Coyote, and are abetted by Coyote-eating plants who snap at the scurrying hound's heels.



Left: The later stages get rapidly more devious, with the simpler platform layouts giving way to complex ledges which will give way under the Coyote's weight. In addition, some of the platforms swing, too, and this can cause all manner of problems as the nasties move closer.



Left and Below: Entering a bonus screen, one of Braybrook's old sprites makes an appearance – Gribbly Grobbly from *Gribbly's Day Out*. In *Fire And Ice*, though, he's a little pest who scampers across the platforms stealing the point-laden bonuses upon them.



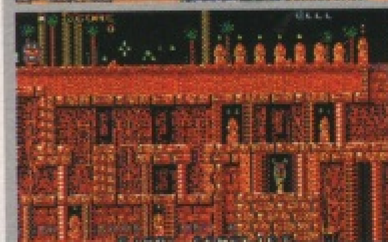


On entering the Pyramid at the end of the game, the Coyote faces the evil Magician responsible for the mutations. But there's still a surprise in store...

BRAYBROOK'S DAY OUT

In a nice return to his coding roots, one of *Fire And Ice*'s stages features the main character from his classic C64 game, *Gribbly's Day Out*. Time, though, seems to have had an adverse effect on Gribbly and whereas once he would spend his days trying to round up his little Gribblets, he know chases the poor Coyote around the platform-laden screens. As he does so, he also steal the many cakes, sweets and hamburgers which form the level's bonuses. With rumours of an Amiga *Uridium* starting to circulate, does this mean that Gribbly's going to be making a comeback, too?





In-Joke No 1: Inside the Scottish castle the bow-wielding, Archer McClean (Geddit!)...

buyers guide

release date	May 1992
genre:	Platform game
team:	Andrew Braybrook (Coding), Phillip Williams (Graphics), Jason Page (Graphics), John Lilley (Sound)
controls:	joystick,keys
numbers of disks:	2
number of players:	1
memory:	Makes most of enhanced machines
continues	five

RENEGADE £25.99

"An excellent return to form by Graftgold"

GRAPHICS	90%
SOUND	85%
LASTABILITY	87%
PLAYABILITY	93%

OVERALL 90%

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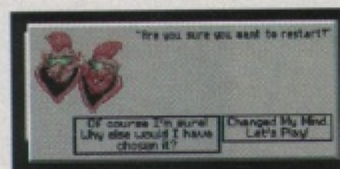

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SPACE QUEST IV





Spot animations, which appear at regular points during the game, aren't up to much.

Sierra thoughtfully provides a hint book to the game for a 'reasonable extra cost'. Hmmm...

Yet again, Sierra is concentrating on the exploits of a space travelling hero from the sewers. Sarah Hibbert asks if it's really a giant leap for mankind...

MILKY WAY

Hey, dudes! It's time to get wacky and weird with two guys from Andromeda and a freelance intergalactic sanitation engineer called Roger Wilco. The joy in this sort of game is essentially one of exploration, puzzle solving, and entering into conversations with total strangers. Wilco's home planet of Xenon has been decimated by unknown forces, zombies and droids are wandering the streets, and the Sequel Police from Space Quest X are after Roger's butt. Does the mysterious alien building in the distance hold the solution to these troubled times? There's only one way to find out...

GALAXY

Sierra's Creative Interpreter has been running the firm's adventures for years now. Of course, it has been refined and enhanced in the never ending march of progress. Nevertheless, somebody in cryogenic suspension since playing the original *Space Quest* could still tackle the latest instalment of Roger Wilco if you unplugged their freezer and thawed them out in the microwave. Perhaps the most startling difference for them will be the easy control over their hero, where they can interact with any characters or objects located in their immediate surrounding with two clicks of the Amiga's mouse controller. Pitfalls and puzzles can be overcome through the initiation of classic adventure game commands – walk, examine, take, talk, even smell. Additionally, these functions can be accessed from a serie of iconss. Previously, adventurers either had to type out the commands or use a keyboard shortcut.

MARS

Over the past few years, Sierra has employed a cluster of professional artists to produce attractive 'rotoscoped' sprites and hand-painted backdrops in every adventure. In the rotoscoping method, an artist uses video footage of people moving around as a reference. Hopefully, this results in life-like images with a twist. Tried and tested movie and comic book techniques, including varying angles of view and close-ups, are also used to heighten the tension and increase your level of attention. Sadly, the pixel painters at Sierra do a far better job on the IBM PC where they can fall back on the luxury of 256 hues and a larger colour palette. The stuff on show in this Amiga adaptation is crude and oddly-coloured by comparison. Furthermore, the display frantically jerks around when the programmers make their first, embarrassing, attempts to scroll certain scenes for dramatic effect. These notable graphical deficiencies are accompanied by a dreary soundtrack and the occasional spot effect.

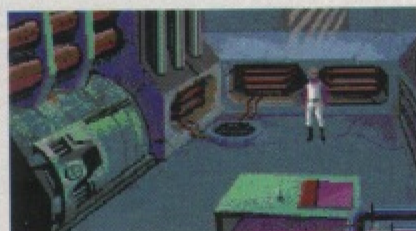
Is this game written in Amiga BASIC or something? No, it's almost certainly a product, in large part, of the aging 'C' much-loved by our American cousins. Sadly, this programming language is easy to use but can't handle speedy operations like scrolling. That's why titles like *Wing Commander 2* and *Space Quest VI* require the power of a fast PC to function properly. After the miserable conversions of *Willy Beamish* and *Heart of China*, more proficient coders should have been contracted for transferring games over to the Amiga.



Sierra's in-jokes are littered throughout the game. In addition, there are also several sci-fi-related japes awaiting you, too, with several well-known faces making the occasional appearance...



Object manipulation is very easy, and is simply a matter of highlighting the object you wish to control, followed by what you want to do with it.



Only dedicated members of the '*Quest*' club need apply for active duty on this mission. It reuses rather too many ideas from past missions.

SNICKERS

Sierra has built up a loyal band of adventurers over the years who, if this release is anything to judge by, must be a bunch of masochists. Although it can be played from two floppy disk drives, you definitely need a hard disk to get the most out of *Space Quest IV*. The new version of Kickstart can also help cut the awkward periods of waiting. I rapidly tire of seeing the watch icon as this means the game is doing something other than fulfil my every whim and desire. It's just not good enough.

In comparison with earlier *Space Quest* games this is a definite step backwards, both in terms of speed and gameplay. Basically, it reuses *Larry V*'s control system, and simply reworks new graphics and plots into it. OK, so it's obviously a good system, but it hardly offers variety for Joe Public. Additionally, I found it rather easy to die and quickly get fed up waiting for the game to let me get back into the fray. It's dripping in zany American humour with no style or substance, and for that fact alone, should probably be avoided. If this is all Sierra has got to offer, give me Lucasfilm every time.

buyers guide

release date	Now
genre:	Graphic Adventure
team:	In house
controls:	mouse, joystick
numbers of disks:	7
number of players:	1
hard disk installable:	yes
memory:	1Mb

THOSE WERE THE DAYS

Ken and Roberta Williams formed Sierra in early 1980 with high hopes and little money. Their premier game, Mystery House, was released on the Apple II. A number of forgettable games followed until Sierra cultured a magic formula with the 1984 release of *King's Quest I*, one of the first animated graphic adventures. The most famous Sierra character, *Leisure Suit Larry*, appeared a couple of years later. In those innocent days, this publisher (and many others) were happy to support the Commodore VIC-20, Atari 400, Texas Instruments TI-99 4A and Coleco Adam! Perhaps you've got one of these classic home computers collecting dust in the loft?

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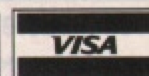
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EYE OF THE BE

THE LEGEND OF DARKMOON



Not since *Knightmare* has a game got RPG fans in such a flurry. Steve Keen, armed with anything he can get his hands on, believes that beauty is indeed, in *The Eye Of The Beholder*...

LONG TIME NO RPG...

It's been over a year since we first immersed ourselves into the fantasy role-playing world of *Eye Of The Beholder*, and just as most seasoned adventurers are coming to the end of the first game, U.S. Gold proudly release the long-awaited sequel. Heralded as the best and most faithful representation of a Dungeons and Dragons RPG since FTL's all-time classic, *Dungeon Master*, *Eye Of The Beholder* held the number one spot in adventure land until Mindscape's *Knightmare* appeared – but the TV licence's reign is now set to come to an end, as SSI/U.S. Gold unveil the all singing, all dancing sequel...

LET THE GOOD TIMES ROLL...

Emerging from the festering sewers beneath Waterdeep, your trusty friend, Khelben, gleefully expresses his gratitude for your efforts in the first adventure, and his ecstasy of the news that you've volunteered for the next one. Things go from bad to worse when he also informs you that, in a fit of extreme generosity and blind stupidity, you've donated all the artefacts, scrolls and valuables you fought so hard to obtain underground, to the city – did they see you coming, or what? People have been mysteriously disappearing in the North and West of the town and it's your task to find out why.

The first thing that strikes you about *EOB 2* is its ease of entry. Although the game comes with a large and comprehensive manual, it's easy to pick up the rudimentary functions within minutes of exploration, and the more complex manoeuvres within an hour. As with most RPGs, your first task is to generate your fool-hardy party. If you're a hardened warrior from the first expedition, you can import your saved party – minus their collected goodies, of course – and use their experience and wisdom to your advantage. If you haven't got a saved party to hand, don't despair as a purpose-built 'Super Party' are included on the disk. Your party once again consists of four members, but there is also enough space to recruit two more team members

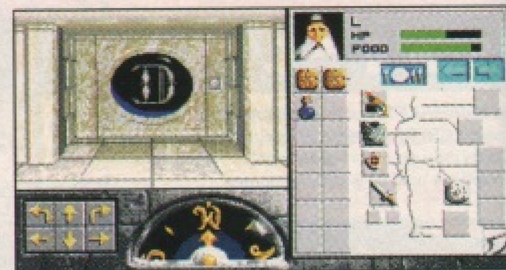
A BETTER CLASS...

The character classes will be familiar to most, but the concept of multi-class heroes may need some explanation. *Eye 2* not only incorporates different gendered adventurers, but different races as well. These fellow Earth dwellers have special abilities peculiar to their races and are therefore not confined to one class. For example, an Elf has excellent hearing, eyesight and dexterity and, although he could dedicate his life to being a rather spiffy fighter, he's more suited to the ways of a thief. Thus, incorporating his hereditary abilities with those he has studied and added to his capabilities, he can be made eligible for double-class status. Likewise, some races can have up to three classes, depending on how many points they carry in these abilities. A fighter needs strength, so, as a result, his strength point must be a good one if he is to have longevity in battle. Used wisely, these characters are extremely adaptable, and as the initially-selected group are limited to the abilities of the founding quartet, the multi-class characters can muck in by making use of objects and spells that the others are unable to use.

It was *EOB*'s perfect mixture of traps, objects, puzzles and monsters that made it such a success, and all these aspects have been improved upon for the sequel. Old favourites, such as giant spiders and wolves are represented, whilst new and even more fearsome creatures await the party in the catacombs. Such new fiends as the Basilisk – a leathery eight-legged monster, with a gaze that can turn a target to stone – and the Mind Flayer, which feeds on a character's psyche causing hallucinations and possession. Additionally, rather than keeping the game below ground in the original's dank and dark passages, the sequel takes us into the surrounding forests, too, paving the way for an even wider selection of nasties and aquaintances, including packs of Wolves and a weird old Lady who is searching for her lost child and will offer to help you if you ask her nicely.



Just one look at this simpering duo, and you know they're up to no good. If you want to get anywhere in the game you have to get rid of this sickening couple. A couple of Magic Missiles and a damn good thrashing should see them off.



STEPPING OUT...

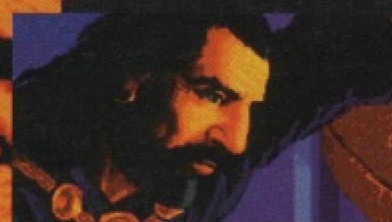
The collected party explore in a set pattern of a square formation, with the most gullible pairing at the front,

SPELLING LESSONS

Use of magic is confined to Clerics, Mages and Paladins (who may use a few of the Cleric's spells). Cleric's spells come from scrolls and must be prayed for, whilst Mages must memorise their incantations. A powerful wizard of any sort is a great advantage to a party as they can perform such wonders as a Flame Strike. These call down a column of flame causing up to 48 points of damage, whilst a Fireball is a red hot blast that causes six points of damage for every level of experience a character has.

HOLDER 2



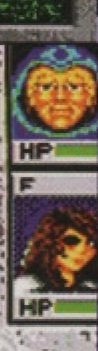

Just a few of the many characters that you'll meet inside the dungeons and on the surface. Some give useful information in return for a favour or a service. Although this chap looks like he's in need of a good baby sitter, he's in fact a talented thief.

CREATURE COMFORTS

There are over twenty different monsters to battle during the adventure. Here's a guide of what to expect... Margoyle – ferocious magical predator which loves to torture their prey. Salamander – huge flaming creature from the elemental plane of fire. The Beholders – globular masses of plasma with countless staring eyes. Propelled by levitation they are extremely hard to hit.




Although many nomadic characters will rip you off or lead you in the wrong direction, you'll never die from experimentation.

Just out of sight lies the suspicious temple and the real start of the quest. Don't be fooled by the sycophantic guardians.

CHARACTER ASSASSINATION

Not everyone you come across wants to spill your blood. There are characters who can be spoken to and will help you out. It's up to you to determine who's a Robert Maxwell and who's a Mother Teresa. Be warned, though, some are totally devious and will join your party only to rip you off and scarper when you're asleep.

buyers guide

release date	April 1992
genre:	RPG
team:	SSI/Westwood Ascociates Bill Stokes (Coding) Rick Parks, Aaron Powell and Ken Olsen (Graphics) and Paul Mudra, Dwight Okahara (Music and Sound Effects)
controls:	Mouse
numbers of disks:	4 Game disks + 1Party disk
number of players:	1
hard disk installable:	yes
memory:	1Mb

ready to take the brunt of the oncoming damage. Characters such as Mages and Clerics can't wear armour, so it's best to let the macho Paladins and Fighters occupy the front-running slots whilst the Soothsayers lob their spells and incantations from behind. If this method is used effectively this enables the Magicians to grow in power levels extremely quickly. The guys at the front can hack away taking all the hits and the magicians can heal them without incurring any wounds themselves – and all the time, they're collating massive experience points. To begin with, spells are a bit thin on the ground, but with frugal usage there should be enough to see you through to the later, more taxing, sections, where they'll really be needed.

Whenever you think you're likely to get into a scrape, it's wise to have all your weapons at the ready. When battling in some RPGs, there's nothing worse than messing around with dull charts and tables, and one of *Eye 2*'s greatest attributes is that there's no fumbling about with such tables during combat. The solution is also a very simple one: the screen is simply designed to show most of the characters' details simultaneously.

Each character possesses a very handy pouch/pocket, and these are used for the storage of up to three objects. When an item currently held is dropped or discarded, the next item in the pouch automatically shifts into the player's grasp. This feature is especially useful for spell and scroll users as, once a spell has been used, it cannot be reused until the party has rested, effectively leaving the player defenseless. However, by filling the pouch with plus one daggers(a dagger which has been upgraded to cause more damage), the Sorcerers can continue to fight by throwing the knives with a machine-gun-like effect.

Such is the difficulty of the game, all the characters begin at experience level seven, and although a first level spell is pretty weedy in a lesser Mage's hands, its power increases manyfold as your experience increases. In addition, if your other hand is free, you can place another scroll or weapon in it and double your attacks per move.



An impressive and effective intro paves the way for your latest adventure. Khelben, the mystic advisor to the Lords Of Waterdeep, confronts you for the final briefing.

MAGIC...

Eye Of The Beholder 2 is a logical, and very enjoyable, follow-up to the first game. It features extremely convincing graphics which are far improved over the first game, and the sound is of equally high quality. There's nothing more chilling than hearing the footsteps of your enemy getting louder as they come towards you – a perfect example of the game's claustrophobic atmosphere. The animation of your attackers is first rate and the detail on the objects is both detailed and clear. At a ground roots level, *Eye 2* is basically a larger and tweaked update, featuring a larger play area and a new scenario. However, I still challenge anyone to leave this adventure before they've finished it. *Eye Of The Beholder 2* is a thoroughly enjoyable and user-friendly game which finally lays that sturdy old horse, *Dungeon Master*, to rest. They don't come much better than this, so ready for the adventure of a lifetime...

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'The best RPG experience in a long time...'

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SOUND	85%
LASTABILITY	90%
PLAYABILITY	91%

OVERALL 92%

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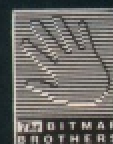
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SPACE CRUSADE

SPACE ODDYSEY

Using the same viewpoints and control system as *Heroquest*, Gremlin take to space in their souped-up sci-fi sequel. Set on a series of alien ships, you and your team are given a limited number of game turns in which to solve the assorted missions.

Although you control a team of five marines, your Commander is the most important and, should he be lost in battle, the mission is deemed a failure and must be restarted. Luckily, however, the all-important Commander is far stronger and carries a more powerful weapon than the grunts – but that's the joys of rank for you.

DICEY DOINGS

On attacking a visisble alien, the success of your assault depends on how well you roll the computer-controlled dice. However, the team's weaponry must also be taken into account – for example, a light blaster will give you one throw of a light dice, whereas a heavily-armed Commander has more throws in his favour. The total of the thrown dice is then the strength of your attack, and any number over the armour rating of your target equals the damage caused. It's a very fair system, but the dice are very heavily loaded, with three of the six sides reading zero, and the others as one, two, and three respectively.

During a game turn, your marines are each allocated an action and movement point. The former allows them to attack using whatever means possible, whereas a movement point moves them a specified distance around the map. Everything in the game is controlled via a series of icons, with any currently-available options lit.

Once you have completed your actions, control passes to the next player or the computer-controlled enemy. The enemy also use this system, but with one important difference – The Alien Event. At the start of each turn, something odd will happen – whether it's a soul-sucking alien absorbing one of your marines, or a scan from your mothership revealing new aliens. Easily the most aggravating event, though, is the activation of the auto-defences, which always home in on your Commander.

EXTRA DUTIES

At key points throughout each mission, you may recieve a radio message from your mothership, detailing secondary objectives. For example, if your mission is to seek and destroy an alien dreadnought, you may also be called to eradicate a lesser being, too.



The action can be switched between an isometric or a plan view. Although the latter is faster, the 3D view is graphically excellent.

One improvement over *Heroquest* is that *Space Crusade* is viewed from above on a scrolling map screen. All visible aliens are marked and others appear on the map as they are spotted. Similarly, you can also use a scanner which radiates in every direction, marking suspect objects as a white star on a green background. The viewpoint can also be switched to isometric 3D, but the game runs faster in map mode.

CU AMIGA SCREENSTAR



PLUS POINTS

Space Crusade has two main plus points: its atmosphere and its addicitivity. Although a full view of the decks is given, it isn't until you enter a room that you can see what you're dealing with. This generates real claustrophobia, which, coupled with the game's minimal but effective machine noises and alien squeals, is a perfect setting. The game's learning curve is perfect, too, with easy-to-get-into missions which are far from simple to solve.

Space Crusade is a classic strategy game. It's made the biggest impression on me since I saw *Rebel Star Raiders* on the ZX Spectrum eight years ago. Having never played the boardgame, I can't comment on how well it has transferred, but on the Amiga, *Space Crusade* isbrilliant. It has enough depth and character to keep you coming back for months to come. In fact, the best commendation I can give *Space Crusade* is that not since *Rebel Star Raiders* has a game impressed me so much.





As the Squad move on their 'Bug Hunt' your objectives are revealed step by step...



GREMLIN £25.99

An engrossing and atmospheric masterpiece...

GRAPHICS	86%
SOUND	89%
LASTABILITY	93%
PLAYABILITY	91%

OVERALL 92%

buyers guide

release date	May 1992
genre:	RPG/Adventure
team:	In-House
controls:	Mouse
numbers of disks:	1
number of players:	1-4
hard disk installable:	No
memory:	Any machine

GLOBAL

Millennium go green with their latest release, a game that involves both global conquest and green-fingered care of the environment. Dan 'Son of God' Slingsby does his best to nurture a nuclear winter...

GOING GLOBAL

The Green movement's bandwagon may have been derailed some time ago, but that hasn't stopped Millennium trying to jump on board with a *Sim City*-style game tinged with environmental sensibilities.

The time is the not-too-distant future, where global development is handled by omnipotent world controllers. Your task is to develop a world's natural resources and build a thriving civilisation. Of course, it's not that simple, and each world's enclosed ecosystem is vulnerable to your industrial advances and the plundering of its mineral wealth and other natural resources. It's up to you to balance the specific economic and environmental concerns of your chosen planet and successfully guide your citizens towards a prosperous future.

The game offers three main options. You can either choose to save a world from an environmental catastrophe, build up a new colony from scratch on a virgin world or become embroiled in a deadly war with a rival controller. Whichever option you plump for, the various scenarios ensure that you'll have your work cut out to stay in power. Not only will you have to contend with natural phenomena, like earthquakes and volcanic activity, but on some worlds there's also computer-controlled adversaries who couldn't give two hoots about either yours or the planet's good health.

SAVE THE WORLD

The 'save a world' option involves four scenarios. The first of these is set amid a nuclear winter where large parts of the planet are uninhabitable, the polar ice-caps are expanding towards the equator, and few people have survived. Your task is to reverse the ecological damage and help civilisation to thrive once more. Whether this would be possible after a real nuclear conflagration is extremely debatable, but as this is a game we'll let them get away with it. Other scenarios offer a post-industrial society poisoned by its own pollutants, a world in the grip of global warming, and another exhausted of all its natural resources. In the first of these, a new world order has to be established based around clean, green, energy-efficient policies while the other two require speedy action to reverse the global rise in temperatures and to maintain the existing civilisation at an optimum level to ensure their long-term survival.

If you're more concerned for your own good fortune than that of your people, the 'rule a world' option will be more to your liking. Here, you have the option to become involved in an industrial confrontation with another controller where rampant industrialisation and expansion by your rival needs to be contained and reversed, or there's the much more appealing arms-race scenario which sees both sides stockpiling nuclear arsenals for an eventual military engagement. Unfortunately, much of this option's appeal is muted as the environmental concerns have to be taken into consideration. By launching a first strike you may well catch your opponent off-guard and thus win the battle, but the war with the environment will be well and truly lost.

The final option allows the controller to develop a number of virgin worlds. It's possible to start from scratch on a fully customisable planet or choose from a number of scenarios. There are eight of these, each throwing up individual environmental problems, ranging from volcanic activity and frozen worlds to mineral and fossil rich planets.





Only limited information is available about the environment and it'll cost you plenty. It's still a worthwhile investment, however, as it acts as a gauge of how your industrial development is affecting the planet.



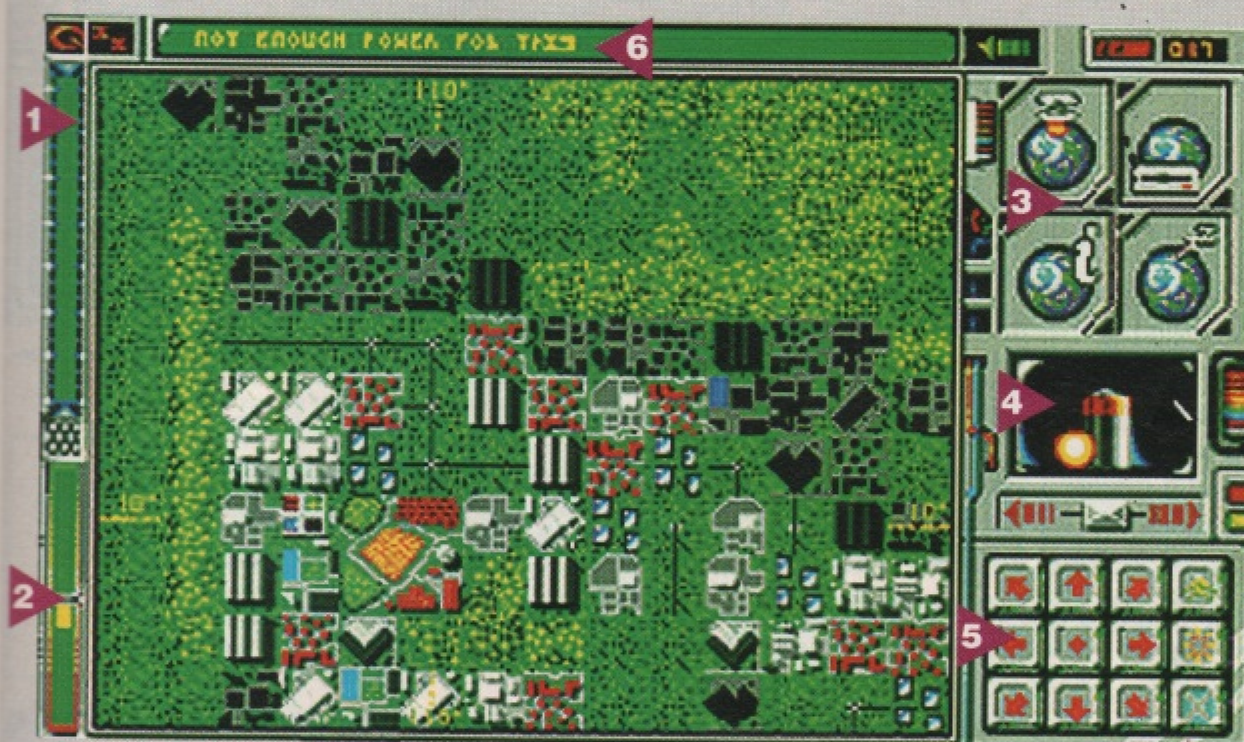
Above left: Your challenge begins. From the leafy surrounds of a natural forest, you have to slowly build up a thriving community. Solar panels and small farms will soon be replaced with oil rigs, oil storage depots, coal mines and bustling cities.

Left: A rudimentary military complex begins to take shape. First you'll need to establish an HQ from which to command your troops. Once that's established, you can then concentrate on building up a formidable arsenal. Unfortunately, this is exactly what the enemy is busy doing, too!



There are eight virginal worlds ripe for development, each with its own pros and cons. If you're not happy with any of them, you can always customise your own planet and start building your own little empire.

EFFECT



GUIDE TO MAIN SCREEN

1 The power gauge works as a credit rating and limits development. Construction can only take place if there is sufficient energy available.

2 The economic and environmental meters monitor how well your economy is performing and the degree to which your actions are affecting the planet. If both are okay, you'll gain more power.

3 This bank of icons allow you to save or pause a game, get strategic information or begin a military build-up.

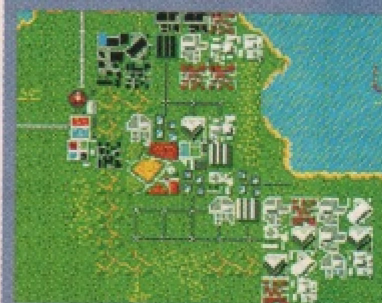
4 The icon bank offers 30 different construction tools. Once selected, the current tool can be placed onto the main screen by simply placing the mouse cursor on screen and clicking the mouse button.

5 The compass is one way of moving about the map. Another is to drag the mouse off each side of the screen, whereupon it will scroll accordingly.

6 Occasional messages appear at the top of the screen, informing the player how well they are doing and of other major game-related events, such as earthquakes or volcanic eruptions.

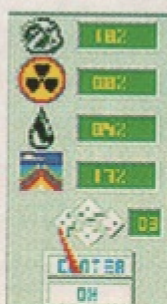
GUNG-HO GAIA

Global Effect is more of a game than the open-ended Sim Earth. There are set objectives for each scenario and most tasks have to be completed within a certain time. One of the more interesting options is the chance to wage global war against a computer component. This involves establishing an operations centre (HQ) before commissioning air and sea bases as well as early warning systems, missile sites and anti-missile batteries. Conventional bombs destroy an area consisting of five blocks (out of a total area of more than 60,000 such blocks), and causes minor pollution and contamination. A nuclear explosion causes widespread contamination of a large area. If more than 30% contamination results from a nuclear conflict, no further actions can be taken until radiation levels have died down. The worst possible scenario is a nuclear winter which is effectively 'Game Over'.



GAME ON

The main game screen consists of a window display which offers a birds-eye view of a tiny section of the planet's surface. To the left of this is an icon selector which contains the assorted construction tools necessary for global management. Unfortunately, only the currently-selected icon is displayed at any one time and it's necessary to scroll through the numerous tools to find a particular item. A much better option would have been a *Sim City*-style icon panel but, instead, *Global Effect* uses a very tedious display, which becomes a distinct irritant the more you play the game. To be fair, it's possible to program the function keys to take on the different icon characteristics, but it's still a cumbersome system.



A seismic survey can reveal hidden fossil fuels and other such goodies.

To the left of the display area are two information meters which detail your economic/environmental rating as well as your power level. Any movement or construction requires power which, in turn, is generated by your economic performance and how well you're managing the environment. To move around the map, there's a compass to the bottom right of the screen and it's also possible to move the mouse cursor off the main screen to dictate movement. Once you've started to build something, messages at the top of the screen inform the player how well they're doing. For example, 'very good drainage', 'commendable farming coverage' and 'well organised recycling network' are common encouragements. Equally common, though, are messages stating 'your city is in need of repair' or that 'your citizens are dying'.

TOOLING UP

Global Effect certainly looks the business. The icons used for the different tools are all fairly straightforward and there's no real need to consult the lengthy manual to discover their function. Keep an eye out for the icon which denotes the sewage treatment works – I think I could have come up with something better than a beaker of water and a big brown pile of excrement! Sound-wise, there's not a lot to say, except that I'd have preferred a meatier selection of sound effects and decent atmospheric music.

City construction isn't as detailed as *Sim City*. The game is more concerned with effects rather than detail. There's no need for hospitals or police stations as the action takes place primarily on a global scale. City blocks are just that – tiny squares which can be linked together on screen to form an expanding metropolis. Other tools include farming units, water reservoirs, recycling plants (naturally), solar generators and sewage treatment plants. Once you've got your basic city unit up and running, it's then time to consider adopting coal-driven power stations or the much cleaner option of nuclear power. Once your city has expanded ➤

buyers guide

release date	**May 1992**
genre:	**God-sim**
team:	**Toby Simpson**
controls:	**mouse**
numbers of disks:	**2**
number of players:	**1/2**
hard disk installable:	**yes**
memory:	**1 Meg**

GLOBAL EFFECT

to a certain limit, environmentally-friendly sources of power, such as wind or solar generators, become inadequate and economic forces dictate the development of more 'advanced' energy sources. This is when problems start to arise and it's a complex balancing act to keep both the environment and your economy in equilibrium.

This might sound an incredibly dull idea for a game and, admittedly, there are times when things become rather routine. It can take a long time to build up a city-state and even longer before your actions begin to have an effect on the environment. Initially, the most exciting things to happen are breakdowns in the sewage disposal system or an outbreak of dysentery, but things do start to improve the more you get into the game. There's a sense of achievement in slowly building up an embryonic city and an even better feeling once you've built up an atomic arsenal and launched an all-out nuclear war!

ORIGIN OF THE SPECIES

Despite the game's many good points, such as the well-thought out scenarios and myriad number of options, I couldn't help feeling that something was missing. That something happens to be one of the most important ingredients that goes into a successful game – originality. There's nothing new here except an over-zealous environmental consciousness which casts its shadow over the entire game in a rather crude and intrusive manner. It's obvious to see where much of the inspiration has come from: *Sim City* is the chief point of reference, but Bullfrog's *Populous*, Gremlin's *Utopia* and Maxis' *Sim Earth* have all been plundered for ideas. If you're going to borrow ideas quite so liberally as *Global Effect* has, then the final game has to be as good as, if not better, than the original products. Sadly, this is not the case, and I'm left bitterly disappointed with what could have been an excellent god-sim but, in reality, is more like a Green Party broadcast.

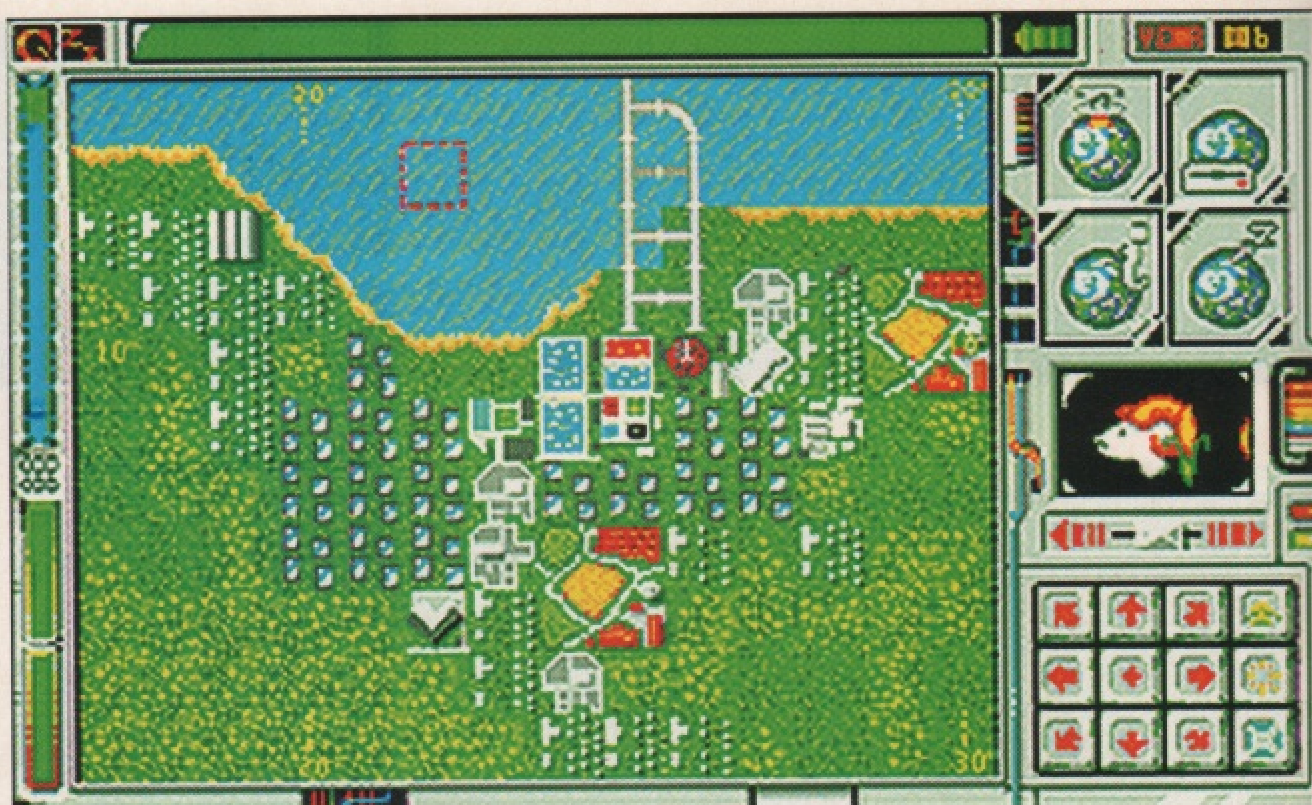
That's not to say there isn't any fun to be had in creating your own environment and carefully nurturing it. It's just that I can think of many better games to spend my money.

Millennium £29.99

Playable God–sim which lacks originality...

GRAPHICS	80%
SOUND	69%
LASTABILITY	75%
PLAYABILITY	72%

OVERALL 74%



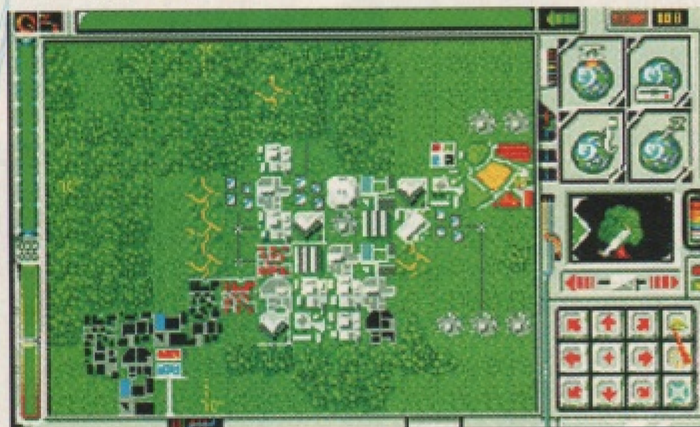
Here's an ideal city in the making. The sewage pipes have been constructed to take their effluent out to sea, farms have been set up to feed the populace and a sensible solar power programme put into operation. The coastal location and nearby forest help create an acceptable working environment and the city looks set to prosper. So, just for fun, why not ruin it all and connect the sewage pipes to the water supply and inflict deadly diseases upon your subjects.



The construction icons allow you to build anything from sewage and recycling plants to nuclear power stations. It's best to start off with solar or wind generators to power your city, as these cost considerably less than more conventional forms of energy. Coal mines are very expensive and extremely environmentally-unfriendly whereas oil rigs cost even more and the chances of finding oil are fairly rare.



Global maps offer a wealth of environmental information ranging from temperature charts, Ozone coverage, pollution and volcanic activity. Each chart absorbs substantial amounts of power, though, so it's best to use such screens sparingly. In the early stages they play little part, but become increasingly important as the game progresses.

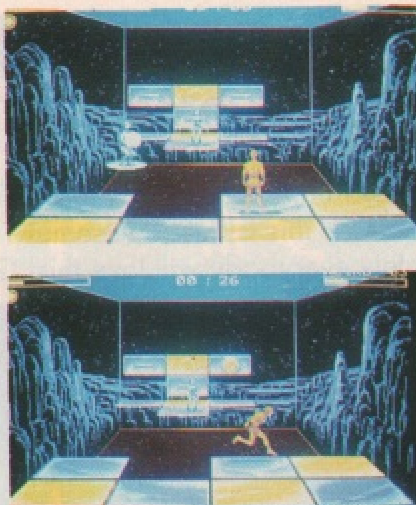


An enemy city begins to take shape. Small city blocks, a rudimentary sewage system and a water supply have all been built, but the solar generators are proving inadequate to power all the blocks causing black-outs to happen. The growth of the settlement is also limited because of the natural barrier of the forest.

SERIAL KILLERS By connecting another machine to your Amiga via a null modem cable, it's possible to have a head-to-head confrontation against another player. It doesn't matter whether the second machine is a Macintosh, PC or an ST – Global Effects can be linked up to all of them and then you and a friend can wreck industrial suicide on some poor unsuspecting planet. There's also an option to play the game via a modem, but due to the vast amounts of data transfer involved, Millennium advise against using this option. Better yet is the computer opponent. There are various parameters that can be set, such as the computer's economic ambition, its speed, and its military intentions. Initially, it's best to use a low setting, or else you'll soon find yourself out-manouevred both economically and strategically.

DISC

Tron's disk-lobbing sequence spawned a series of coin-ops, but it took Loriciels eight years to get it on to the Amiga. Consequently, the gameplay and presentation now look a little old hat. Stood at either end of a rectangular arena, the two players are given a frisbee-like object which must be thrown at their opponent. Directly behind each contestant, there are a series of blocks, which correspond to the tiles the duo are standing on, and whenever a section of the wall is hit, it disappears taking the relevant floor square with it. In addition, both players are given a limited supply of energy, and if the lack of floorspace doesn't get them, then constant buffeting with the disc will. Hardly taxing stuff, Disc is a nice-looking game, but was a poor full-price release, and still doesn't warrant a buy for eight quid.



ACTION 16 OUT NOW £7.99 **61%**



Steve Merrett, CU's resident skin flint, peruses the wide range of budget games set for release this month, and offers his verdict on the best buys...

NAVY MOVES

For years, Spanish team, Dinamic, were famed for releasing unplayable games under the '*Moves*' monicker. There were loads available: *Army Moves*, *Army Moves II*, and this, *Navy Moves* – luckily, by *Navy*, the games were actually starting to come together. Cast as a heroic aquanaut hero, *Navy Moves* is a shoot 'em up played over a series of scrolling stages, before moving into a large military complex for the second, arcade/adventure stage. As can be expected, these aquatic antics lob all manner of Squid and sub-aquatic nasties at our flipper-wearing hero, and these must be shot or avoided. A lrager content of creatures makes this increasingly difficult, though. And that's all there is to it, really. The base section is marginally better than the first half and features a large and detailed play area to explore, but getting to it is hampered by the dodgy collision detection the scrolling detection suffers from. It seems that Dinamic's original intention was to create a game similar in content to a Milk Tray advert, but too annoying factors work against it. Navy Moves is by no means complete trash, and does have something quite addictive about it, but even though it's less than a third of its original price, it's still a dubious buy.

HIT SQUAD OUT NOW £7.99 **43%**

THE BITMAP BROTHERS VOLUME

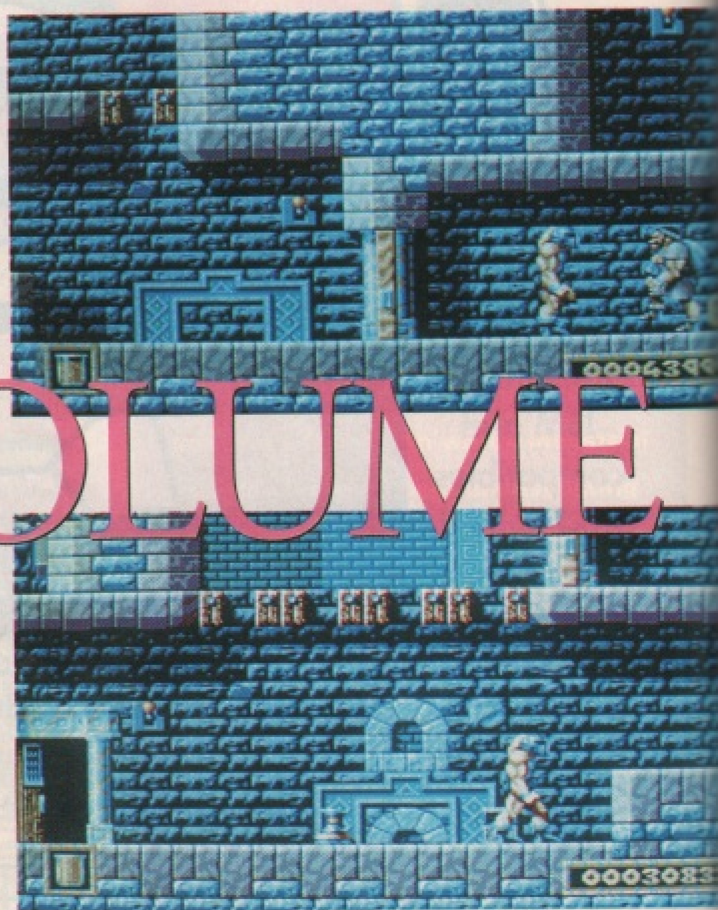
compilation of **THE MONTH**

Although they've come in for some severe knocking recently, there's no doubting that The Bitmaps are still in a class of their own. Since their less-than-humble beginnings with *Xenon*, the Bitmaps have redefined the shoot 'em up and futuresport genres with *Xenon II* and *Speedball II* respectively. This compilation is made up of the aforementioned *Speedball II*, the arcade/adventure, *Cadaver*, and the original *Xenon* – and whilst the latter is the weakest of the three, it still makes most recently-released blasters look tame.

Speedball II should need no introduction, and is quite simply the pinnacle of futuresports. Played across a three-screen-long metallic pitch, the basic aim is to rumble the ball past your opponents' goalie – using violence whenever necessary. With all manner of bonuses and tactics also available, *Speedball II* is a genuine classic and ultra addictive. Equally playable, is *Cadaver*, the Bitmaps' first foray into the arcade/adventure genre.



Set within a stunning isometric landscape, *Cadaver*'s puzzles outweigh even its graphics – and that's saying something. *Xenon* was the first Bitmap game, and is still playable. The first 16-bit arcade-quality blast, *Xenon* is a little too hard for its own good, but is still a worthwhile play.



A stunning collection of some of the Bitmaps' finest games – and if you're new to the Amiga scene, this is the perfect introduction to gaming.

RENEGADE OUT NOW £25.99 **95%**

SUPAPLEX

game of THE MONTH

This is a rather surprise budget release, but certainly a welcome one. *Supaplex* was originally released a mere five months ago, but for some reason didn't sell. Perhaps the prime reason for this is its primitive look, with a main sprite which doubles as a Tomato, and background sprites which resemble crude user-defined characters. Even so, these dull aesthetics barely mask *Supaplex's* brilliant playability. Basically, it's a variant on the time-honoured classic, *Boulderdash*, with the original's







cluster of gem-filled caves, replaced by *Supaplex*'s 111 circuit boards awaiting excavation. Your little Tomato has been given a set time within which to collect a predetermined number of each board's Infotrons, whilst avoiding any rockfalls (soory, Zonkfalls!) or chain-reactions your actions may set off. In addition, an assortment of nasties – such as scissors – inhabit the caves, and will pursue him if freed from their confines. The game's superb puzzle element is strengthened, when the only way to collect sufficient Infotrons is to drop the rock-like Zonks on to a particular species of creature to create the necessary goodies, and this leads to some extremely taxing situations. Original it ain't, but playable and worthy of a buy, *Supaplex* certainly is. And when you consider what a travesty Databyte's Amiga *Boulderdash* turned out to be, Action 16's rerelease becomes all the more welcome. Go on, invest eight quid – you won't regret it.

ACTION 16 OUT NOW £7.99 86%

AWARD WINNERS

Getting off to the best possible start with Anco's *Kick Off II*, *Award Winners* is well supported by the likes of *Populous* and *Pipemania*. All three are excellent and diverse enough to make the compilation a worthwhile buy, from the arcade perfection of Anco's legendary footy sim and Empire's *Pipemania*, to the devious Deities of *Populous*. What doesn't make sense, though, is that, for reasons known only to themselves, Empire have also stuffed *Space Ace* into the pack.



Thankfully, this hasn't inflated the pack's price, but I can't help but think that the space could have been better served. Oh well, even if you only play *Ace* once, you're still getting an excellent deal, and you'll be playing *Kick Off II* and *Populous* for years to come. However, perhaps it's time for a forty-quid Readysoft compilation, with their work to date bundled together...

EMPIRE OUT NOW £34.99 89%

BEYOND THE ICE PALACE

Software for less than three quid? Blimey! Elite originally released *Ice Palace* as an unofficial sequel to *Ghosts'n'Goblins*, but it never really hit the same mark. The similarities are fairly obvious, with all manner of ghoulish goings-on to avoid and spooks to kill, set upon a series of platforms. Every now and then, though, a spookier 'Boss' creature comes along to sap your energy unless you can kill it first – get the picture? Hardly original stuff, is it? Aside from the price tag, there's not a lot going in *Ice Palace*'s favour. It looks and plays like an 8-bit game, and has all the lasting appeal of a bag of chips, but I suppose for three quid it isn't bad.

POCKET POWER OUT NOW £2.99 38%

ESCAPE FROM THE PLANET OF THE ROBOT MONSTERS

Winner of 'The Longest Game Title Ever', *Robot Monsters* is a spoof of countless space-based B-Movies, and pits two heroic fighters against a mass of manic robots. Played across a series of isometric zones, the game is basically a shoot 'em up, as the two laser-toting heroes blast their way through the scrolling areas, in search of an exit. Along the way, they run the risk of getting impaled, electrocuted, and shot, all of which are depicted in brilliant cartoon style. Although it gets a little samey in places, has stood the test of time very well. And is most certainly worth its modest asking price.



THE HIT SQUAD OUT NOW £7.99 80%

HELPLINE

If you're stuck on a game and don't know who to turn to for advice, then look no further. The original and best Helpline is back with yet another massive selection of game queries and desperate cries for help.

ENQUIRIES

NEW ZEALAND STORY
Level four is impossible and we defy anyone to get past the whale. We can dodge whatever it is he drops, but don't know how to defeat him. Help please!
Helen Pase, Amy Nicholson, W1

LEMMINGS
It's a great game but I can't get past level 19. Can anyone guide me through this extremely tricky level?
Barry Ambrose, W2

LEANDER
We don't want a cheat for this game, just some useful advice. We're stuck on level 1.4. Although we have retrieved the crossbow at the bottom of the cave, we can't get out and are trapped down there. Any help, please?
Marc and Gavin Preite, W3

KULT
How can I save a game? I get the OK message after trying, but when I try to load a saved game it always fails. I've followed all the instructions, but to no avail.
Adrian Bernascone, W4

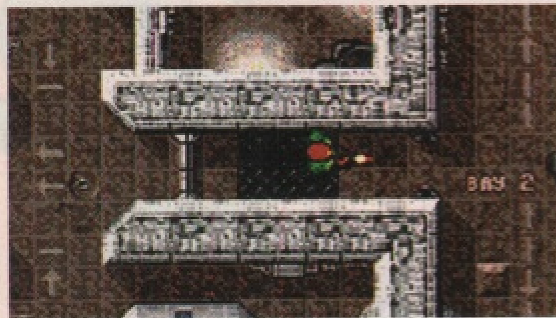
DEUTEROS
I cannot get any further with this game. I have built eight space stations, have seven fighters (drone fleet control computers) all of which are armed with 200 drones, and have won countless battles. The problem seems to be that I am unable to advance any further in the game. For example, I cannot build any more space stations, and my scientists have not invented any more powerful weapons or space ships.
Adrian Bernascone, W5

HERO QUEST
It's a good game, but a little frustrating. Is there a cheat for infinite lives or money up to £5,000 for each of the four players? How about infinite spells for the Wizard and the Elf characters.
Matthew Farrow, W6



HOW TO USE HELPLINE
It's easy. Just send in your letter, marking your envelope with the appropriate code number if you are sending a response or mark it 'Enquiry' if you need some help. Post your letters to: HELPLINE, CU AMIGA, PRIORY COURT, 30-32 FARRINGDON LANE, LONDON, EC1R 3AU.

ALIEN BREED
Is there an infinite lives cheat for Team 17's brilliant shoot 'em up? I know the level skip cheat, but it's still too hard.
James Kinghorn, W7



FIRST SAMURAI
This is just too difficult. Don't get me wrong, it's an extremely polished game, but the second level has me well and truly stuck. I can collect all the special objects on the second level, but I don't know what to do next or where to go?
James Kinghorn, W8

MANIAC MANSION
Let's have a hint or tip for this aging classic, please? I've been doing really well until I get to the Man-Eating Plant Room. I've watered the plant and thrown the paint thinner against the wall to reveal the door but I need to get through the trapdoor above the planet to get into the Telescope Room and I cannot find a ladder anywhere!
Kathy Anderson, W9

CRUISE FOR A CORPSE
I'm no John Thaw, and I'm completely stumped with this game. I've spoken to the Mermaid and found the piece of paper with the message, but I can't get any further.
Alistair Round, W10

WINGS OF FURY
It's kind of embarrassing. You see, I can't get past the first screen of this game. Please help me!
Duncan Hughes, W11

MAGIC POCKETS
I've noticed this game crop up in Helpline on quite a few occasions. Now I know why – it's really difficult. The game is a doddle up to level three, but after that I can't get past the Frogs with the extra long tongues or the stone-throwing Zombies. Any hints and tips would be greatly received.
Mr A Coulson, W12

LEISURE SUIT LARRY 5
I'm a member of Mensa and have an IQ in the stratosphere, but when it comes to Sierra's latest *Larry* game I bow my head in shame. I can't get a ticket, get into the VIP lounge at the airport, or into the boss's office. I've collected everything possible, but I can't find a brochure for the ticket machine.
S. Anderson, W13

SMASH TV
Ok, so it's not a patch on the arcade version, but it's still a cracking game. Things do tend to get a bit hectic, though, and a cheat for infinite lives/energy/credits would not go amiss. After all, points mean prizes...
Adam Turner, W14

4D SPORTS BOXING
I've steadily built up my Boxer's stats, but still can't seem to make any progress. Even when I let the computer do my fighting for me, I still take a pummelling. A cheat for increasing my stats still further would be most excellent.
Robert Bryant, W15

INDY HEAT
Money's too tight to mention in this Storm conversion of the brilliant coin-op. Indeed, I never seem to have enough of the old moolah, so is there a cheat for generating fat wads of cash? A fuel or turbo cheat would be handy, too.
Simon Wilson, W16



NEW IMPROVED HELPLINE
That's right, from next issue Helpline is going to be bigger and better than ever before. Not only that, but everyone who sends in a game hint or cheat will receive a FREE game from a top software company. Keep reading the only reader hints and tips service worth bothering with!

JUMP AT IT!

PARASOL STARS

RAINBOW ISLANDS 2

"Both graphically and sonically this is a highly impressive product... well worth buying"
GAMES X 19/20 GAME OF THE WEEK

"Sheer brilliance, and no mistake... an easy contender for Game of The Year"
CU AMIGA 95% SUPERSTAR



"The playability is what sets it apart... teasingly addictive and enthralling, PARARSOL STARS deserves all the praise it gets. Place an order now!"
***ST ACTION* 92%**

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small tips

If it's top tips for the top games you're after, CU Amiga is here with all the latest hints and cheats.



FORMULA ONE GRAND PRIX

If you can't get pole position in Microprose's Formula One racer, here's a cheat to turn your motoring fortunes around. Go to the pits, escape from the game and go to accelerate time. You should now finish the Grand Prix in Pole Position.







TITUS THE FOX

Down a foxhole without a clue in Titus' latest platform romp? Help is at hand as here are the levels codes for all 16 levels:

Level	Code	Level	Code
1	2625	9	6390
2	8455	10	8612
3	2974	11	4187
4	4916	12	1350
5	1933	13	9813
6	0738	14	5052
7	2237	15	3360
8	5648	16	2045





POPULOUS II

If you're having troubling battling Zeus and his cronies in Bullfrog's excellent God game, here's a cheat for maximum strength for everything. Type in: ADKITAKDVGZLRGWZ (no spaces) at the password prompt at the beginning of each level and you'll be able to slug it out with the best of them. Thanks to Adam Chapman, who hails from Middlesbrough, for that one.



HARLEQUIN

Gremlin's multi-level platformer has rather a lot of nasty surprises waiting for the inexperienced gamer. Here's a mini hints'n'tips guide to help you on your way.

* Using the Space Hopper on water will allow you to skim across the surface without drowning.

* Watch out for hidden bonuses located at the following locations:

The first Tower's clock face

The clown's noses in the Learning Curve

The taps in the Sewerside

The trees and flowers in Cutesy Land

The pipe openings in the Organ Chamber

The ace of Hearts playing cards in the House of Cards

* Don't stay in the straws level too long. When the timer runs out, the credit tokens disappear and aren't regenerated. However, if you grab as many as you can and leave before the timer reaches zero, when you reenter the level, all the credit tokens should be back again. By doing this two or three times you will gain an extra life.

* When falling long distances, use the brolly power just before you hit the ground. It may only save you a small amount of energy but every little bit counts.

* Heart pieces are located in the Rooftops, Hell, Cutesy Land and Sheet Muzak.

* Most levels change in some way during the game so always be sure there isn't an exit you've missed when you pass through a level which you have visited before.

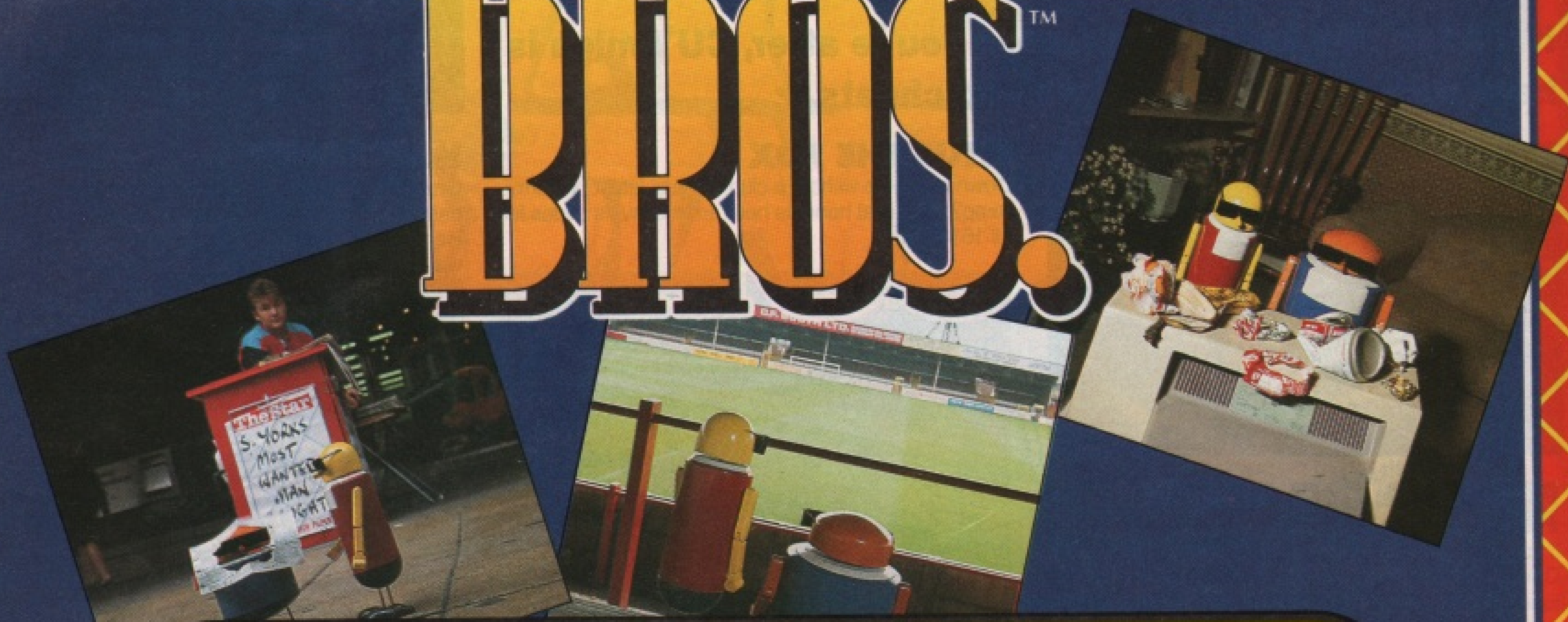
* Save your game frequently as it will take a long time to complete (roughly two and a half hours if you take the shortest route).

* Any levels which have water are bound to have a Fish power token nearby so don't venture near it without one.

* Something strange might happen should you hit the right notes in the Organ Chamber.



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READERS SURVEY 1992



That's right. It's that time of the year again when we ask you, our valued readers, to pick up your pens and let us know your thoughts and opinions on Britain's fastest-growing magazine, CU Amiga.

WIN! £2,000 worth of free software!!

It's been a hectic year of change and development for CU Amiga and now it's your turn to tell us what we're doing right and what we're doing wrong.

You might think that questionnaires are a waste of time and that no-one's going to be interested in what you have to say. Well, you're wrong! Each questionnaire we receive is carefully scrutinised and each comment has a direct bearing on the future development of the magazine. This isn't a space filler – it's your chance to dictate the development of the mag over the coming 12 months.

For example, you might think we don't have enough game reviews or that we don't cover the enthusiast market very well. If that's the case, vent your spleen and tell us about it. The dramatic changes CU has undergone in the last year were a direct result of our last survey, so we really do listen to what you have to say.

And as an added incentive, we're also giving away more than £2,000-worth of top-rated software in a special prize draw. The sender of the first survey out of the bag will win £500-worth of software of their choice, with the next 15 runners-up receiving £100-worth of top-quality utilities and games for their Amiga. If you want to get something off your chest, now's your chance...

HOW TO ENTER

Please try and answer every question. If your stuck for an answer to any particular question, simply miss it out and go on to the next one. Most questions simply require a tick in a box, but some require more extensive answers – please try and complete as much of the questionnaire as possible. You can either tear out this form and send it in, or a photocopy is just as acceptable. You can also write out your answers on the back of a matchbox if you want, we're not picky! Once you've filled everything in, send it to: CU AMIGA SURVEY 1992, EMAP IMAGES, PRIORY COURT, 30-32 FARRINGDON LANE, FARRINGDON, LONDON, EC1R 3AU. Entries to arrive not later than June 1st, 1992 (Although the compo stays open for our overseas readers until 1st September, 1992, as we appreciate that some of you get your copies some time after the mag has gone on sale in the UK).

IMPORTANT: Where appropriate, please tick the relevant boxes to indicate your answer. All information given in this questionnaire will be treated in the strictest confidence and individual details will not be given/sold to any other organisation.

1. About You

Name:...

....

Address:...

....

....

....

Age:

Sex: Male ☐ Female ☐

2. What do you do for a living?

At school ☐
Further Education ☐
University/Poly ☐
Full-time work ☐
Part-time work ☐
Unemployed ☐

3. What's your income per year?

£2,000 or less ☐
£2,001–£6,000 ☐
£6,001-£10,000 ☐
£10,001-£15,000 ☐
£15,001-£20,000 ☐
£20,001-£25,000 ☐
£25,001-£30,000 ☐
£30,001 plus ☐

CUT ALONG LINE

1992 Questionnaire

4. What do you use your Amiga for? (Tick more than one box if necessary)

	Regularly	Sometimes	Never
Music	☐	☐	☐
Graphics	☐	☐	☐
Programming	☐	☐	☐
DTP	☐	☐	☐
Games	☐	☐	☐
Word Processing	☐	☐	☐
Education	☐	☐	☐
Comms	☐	☐	☐
Business	☐	☐	☐

5. What type of Amiga do you own?

- A500 (512k) ☐
- A500 (1Mb) ☐
- A500 Plus ☐
- A1000 ☐
- A1500 ☐
- A2000 ☐
- A3000 ☐
- Amiga CDTV ☐

Other. . . . .

6. In the next 12 months, are you interested in purchasing any of the following machines:

- Amiga 600 ☐
- Amiga 4000 ☐
- Amiga 570 (CD Rom drive) ☐

7. Do you own a memory expansion for your machine?

Yes ☐ No ☐

8. We're thinking about making our coverdisks 1Mb only. Do you think this is a good idea?

Yes ☐ No ☐

9. Which of the following peripherals do you own?

	Own	Intend to buy this year
Monitor	☐	☐
Disk Drive	☐	☐
Hard Disk	☐	☐
Printer	☐	☐
Action Replay	☐	☐
Genlock	☐	☐
Sound sampler	☐	☐
Modem	☐	☐
MIDI interface	☐	☐
Scanner	☐	☐
Digitiser	☐	☐
PC Emulator	☐	☐
Accelerator Card	☐	☐
24-Bit Graphic Card	☐	☐

10. How much time per week do you spend using your Amiga?

- less than 2 hours per week ☐
- 2-5 hours per week ☐
- 6-10 hours per week ☐
- 11-15 hours per week ☐
- 16-20 hours per week ☐
- Over 20 hours per week ☐

11. How much money do you spend on your Amiga per month?

- Less than £20 ☐
- Between £20-£30 ☐
- £31-£40 ☐
- £41-£60 ☐
- £61-£100 ☐
- More than £100 ☐

12. What percentage of your answer to question 11 is spent on games software?

- 25% ☐
- 50% ☐
- 75% ☐
- 100% ☐

13. What other computer magazines do you regularly buy?

- Amiga Action ☐
- Amiga Format ☐
- Amiga Shopper ☐
- Amiga Power ☐
- Amiga Computing ☐
- Amiga World ☐
- AUI ☐
- C&VG ☐
- The One ☐

14. How important is the content of a magazine's coverdisk in influencing you to buy the mag?

- Not important ☐
- Occasionally influences me ☐
- Major influence ☐

15. Where did you buy this copy of CU Amiga from?

- Local Newsagent ☐
- Subscription ☐
- Chain Store ☐
- Computer Store ☐

16. How many other people will read this copy of CU Amiga?

- 0 ☐
- 1 ☐
- 2 ☐
- 3 ☐
- 4 ☐
- 5 ☐

17. If there's one thing you could change about CU Amiga to make it better, what would it be? (Please use a separate sheet of paper if there isn't enough space for your answer)

. . . .

. . . .

. . . .

. . . .

18. How many copies of CU Amiga have you bought in the last year?

- 1-3 ☐
- 4-6 ☐
- 7-9 ☐
- 10-12 ☐

19. How do you rate the following sections in this month's issue?

	Very Good	Fair	Poor
News	☐	☐	☐
Coverdisk pages	☐	☐	☐
Lead Feature (The Ultimate Amiga)	☐	☐	☐
First Imps	☐	☐	☐
Game Reviews	☐	☐	☐
VFM	☐	☐	☐
Small Tips	☐	☐	☐
Technical Reviews	☐	☐	☐
Buyer's Guide: Printers	☐	☐	☐
PD coverage	☐	☐	☐
Buyer's Guide: Education	☐	☐	☐
Buyer's Guide: Joysticks	☐	☐	☐
Backchat			
Step-by-Step	☐	☐	☐
Buyers Guide: HD Games	☐	☐	☐
Q&A	☐	☐	☐
Programming	☐	☐	☐
Music column	☐	☐	☐
Comms column	☐	☐	☐
Inside Information	☐	☐	☐
Educationcolumn	☐	☐	☐
Points of View	☐	☐	☐

20. Have we the right balance between our technical and games coverage?

Yes ☐ No ☐

21. If you answered 'No' to question 19, how should we change our coverage?

- More technical coverage ☐
- More games coverage ☐

22. Does CU Amiga give you enough information to make a purchasing decision?

- Yes ☐
- No ☐

(If 'No', what could be done to improve our reviews?)

....

....

....

....

23. Do you buy Public Domain software?

- Never ☐
- Occasionally ☐
- Regularly ☐

24. Which sort of PD are you most interested in? (Tick more than one if necessary)

- Demos ☐
- Music ☐
- Slideshows ☐
- Games ☐
- Animations ☐
- Utilities ☐
- Virus Checkers ☐

25. From the following list, please indicate how you rate CU Amiga's design (Tick as many as you like):

	Yes	No
Attractive	☐	☐
Gives enough info	☐	☐
Easy to read	☐	☐
Too serious	☐	☐
Not serious enough	☐	☐
Just about right	☐	☐

26. The price of the CD ROM drive is expected to be £299. Would you buy one at this price?

- Definitely ☐
- Possibly ☐
- Only if it's cheaper ☐
- No ☐

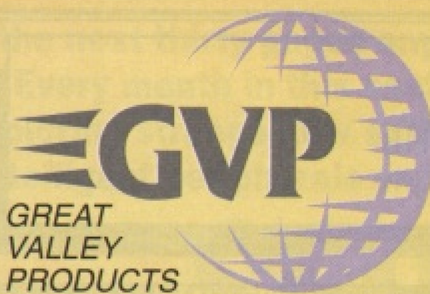
27. Which of the following Buyer's Guides would you like to see appear in the magazine over the next 6 months?

Hard Drives	☐	Accelerator Cards	☐
Modems	☐	Animation packages	☐
Memory Expansions	☐	Emulators	☐
Digitisers	☐	24-bit graphics	☐
Word Processors	☐	Public Domain	☐
Business software	☐	Mice/Trackballs	☐
Printers	☐	Games	☐
Cam-corders	☐	DTP	☐
Genlocks	☐	Programming Languages	☐
Databases	☐	Education	☐

28. Would you buy CU Amiga produced merchandise, including videos, book guides, binders, games and utilities?

	Yes		Yes
Videos	☐	Disk-boxes	☐
Books	☐	Mouse mats	☐
Binders	☐	T-shirts	☐
Games	☐	Jumpsuits	☐
Utilities	☐	Zit cream	☐

Phew! That's the lot. Thanks for taking the time to complete this questionnaire. Only with your help can we make CU Amiga even better.



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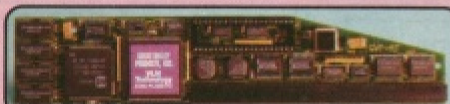
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40MHz-0/52Mb HD	Ref: HAR 0962	£749
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NEW! OPTIONAL PLUG-IN 16MHz PC286 EMULATOR

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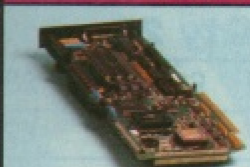
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Which computer(s), if any, do you own? 68B

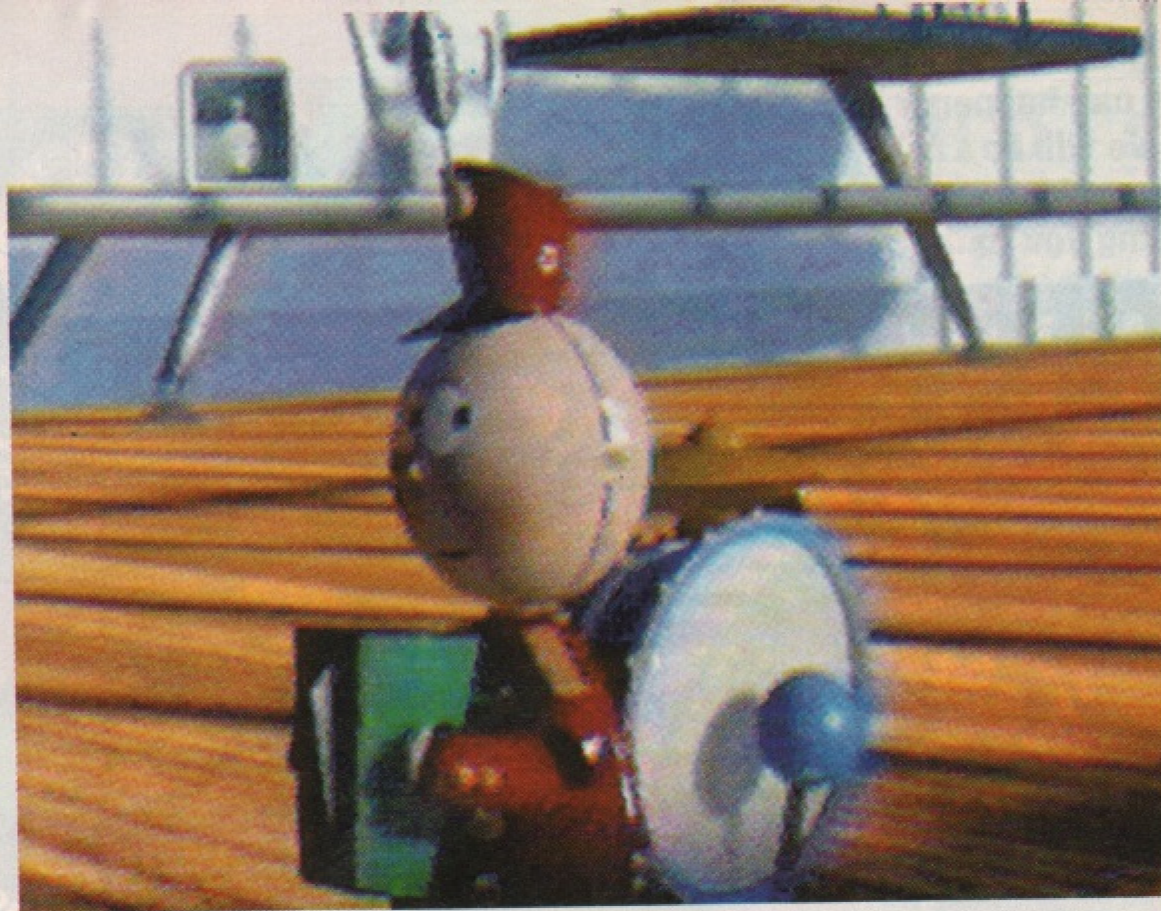
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In the next thirty pages anything can happen. Every month in this section, we will be exploring strange new software, seeking out intelligent peripherals and inviting you to...

GET SERIOUS



The top rated accolade is for non-games products scoring over 90%. They will definitely be worth the money and are likely to act as a benchmark for future releases.





Despite the power of the rendering system, John Lasseter's team resorted to using texture mapping to create highlights in the 'Tin Toy' animation.

At last, a ray-tracing package that does more than just draw pretty pictures! Mat Broomfield checks out *Ray Dance*'s latest advances in our exclusive review.

let's dance

ENTER THE ARENA

Today's ray-tracing arena is a lively place, populated by the likes of *Real 3D*, *Imagine* and *Sculpt 4D*, all of which can create life-like 3D scenes, complete with animated objects and roving cameras. Exciting enhancements, such as texture and bump-mapping, appear with every new release, and *Ray Dance* is no exception. However, to achieve these new features, Charles Comstock, the program's creator, has gone right back to basics. Has he created a thoroughbred, or a graphical equivalent to Frankenstein's monster?

THE DANCE BEGINS

Ray Dance is a budget-priced ray-tracing package which supports surface mapping, animation, 24-bit colour and a plethora of other 'standard' options. However, there are several features which set it apart from other packages, including Automatic Plant Generation (the herbacious kind!), fractal support, and a low memory replicate option.

Its greatest point of departure from the ray-tracing norm, though, is that it's script driven, forsaking the user-friendly, mouse-controlled systems used by every package today. Although superficially this system sacrifices ease-of-use, at a deeper level it actually increases the user's control over the finished output. An object is defined using numbers and Keywords representing vertices, planes, and interconnections. It's then manipulated via a text file created on any standard text editor. This text file is also used to define the scene in which your object (or objects) reside, and the way the scene will be viewed camera position, lighting, etc).

OBJECTS OF DESIRE

It's in the area of object definition that *Ray Dance* demonstrates it's advantages. Because all objects are defined mathematically, far greater precision can be achieved. For example, it's easy to define a cube in *Sculpt* or *Imagine*, because it has eight easily-positioned vertices, the positions of which can be calculated relatively easily. But try and draw a pentagonal dodecahedron (a solid with twelve pentagonal faces), and you'll soon run into problems!



In 'Red's Dream', a variety of surface textures are used, ranging from the matte finish of the monocycle's seat to the shine of its springs.

With *Ray Dance*, providing you know the requisite mathematical formula, the program will calculate the rest for you. This is especially useful when drawing curved objects which need to include a completely accurate degree of curvature (the supports of a suspension bridge, for instance). Consequently, this precision makes *Ray Dance* an ideal tool for professional and scientific users, as well as serious hobbyists who'd rather not sacrifice accuracy for user-friendliness.

A number of other tools are provided to simplify object creation, too. Extrude takes a two dimensional shape and converts it into a 3D one. Although limited in its flexibility, it's ideal for creating logos because the designer can use his favourite art package to design it, and, using Extrude, instantly convert it into a three-dimensional object. Lathe is handy when the user needs to create circular objects, including plates and discs. A two-dimensional cross-section of the object can be rotated around 360 degrees to create a solid object, or by less if a completely round object isn't required.

One of the most exciting object creation tools is the Tree function. This is used in the creation of realistic plants and, obviously, trees – complete with leaves if required. This function uses a 'growth' algorithm that lets the user specify a range of variables before the plant is created. The diameter of the trunk will affect the overall size of the tree, and the branch height defines how spindly or bushy it will appear. By specifying the angle at which the branches grow, a variety of species can be created, ranging from an over-hanging Willow, a bushy Oak, or a rocket-shaped Poplar. The funny thing about this option is it's so simple, you can't help wondering why nobody thought of it before!

Moving from trees to landscapes, and in the panorama department, *Ray Dance* offers two types of fractal creation. The first is the simple import or creation of fractal landscapes in much the same format as *Vista* or *Genesis*. The second is rather more simple, and creates a variety of landscapes based solely upon the Mandlebrot set. These tend to be quite simplistic in appearance when compared to the output of the former method, but, nevertheless, they're still better than

LIGHTWAVES Ray-tracing has come a long way since the Amiga world was first stunned by the Juggler demo, which was written using an early program imaginatively titled *The Ray Tracer*. Despite the razzamatazz of recent years, the end objective remains the same as it ever was: to create scenes which are as realistic as possible, using three dimensional objects and computer-calculated lighting and shading. It does this by taking a specific point on an object in the scene, and back-tracing every ray of light that hits that point, taking into account the surface properties of the point. The process is repeated for every pixel on the screen, and requires a HUGE number of calculations.

It's been used to spectacular effect in a number of films, including Star Trek, and is now recognised as an art form in its own right, resulting in animated films such as Luxo Junior, Red's Dream and The Train Who Could.

Because of the large number of frames required to create these films, even the fastest Amiga would take years to create a single ten minute section. The labs that create them use parallel processsing systems which are effectively dozens, or even hundreds of computers all linked together and working simultaneously.



John Lasseter's Knick Knacks animation shows the effectiveness of combined ray-traced and hand-drawn elements.



the plain or chequered backgrounds that usually accompany fractal pictures.

Once the outline of an object has been created, its realism can be enhanced further in a number of ways. To start with, it needs to be coloured, and *Ray Dance* allows the artist a 24-bit palette of 16.7 million colours (although they're not all visible on a normal Amiga). I particularly liked the Graduation option which allows the addition of rainbow colours to any face of an object, rather like the copper effects that turn up in a lot of demos.

DO THE BUMP

The two most popular colouring options are the texture and bump-mapping facilities. Texture mapping takes an IFF picture and applies it to a selected object, so that the object has a picture stuck to its undulating surface. Bump-mapping also requires an IFF picture to operate, but rather than applying the picture directly on to an object, it takes the brightness values of the picture and converts them into pseudo-contours on the object. For example, if your picture consisted of black and white lines, the bump-mapped object would appear to be covered in ridges and troughs. In fact, the contours of the object haven't been altered at all, it's simply been coloured to look like it. There are two varieties of each of these options: wrap and project. Whereas Wrap actually folds the picture around the selected object, Project works rather like a film projector shining the picture on to the object from a particular direction. Unlike a film projector, the image also 'shines through' to the rear of the object as well – like those irritating little kids who interrupt the film with a series of hand-shadow bunnies and birds.

When the objects have been created and composed into a scene, the position and lighting style must be selected. Four types are provided, (star, lamp, infinite and ambient), each of which results in different spectacular effects. Obviously, the scene is going to be useless unless you can see it, and that's where the Camera functions come into play. The user needs to define from where, and how, the scene will be viewed. The camera can be freely moved within a scene, and the zoom mode can magnify a certain areas if required. Even the amount of light entering the 'lens' can be altered, lightening or darkening the end result.



Luxo Jnr is one of the most famous ray-traced 'films'. It features an endearing angle-poise lamp which is given a personality in the way it moves.

RENDERED USELESS

Once everything is arranged to the user's satisfaction, all that remains is to render (draw) the picture. *Ray Dance* comes with two versions of the rendering program: one for owners of 68020/30 accelerators, and the other for owners of standard machines. The rendering engine (as Radiance calls it) has a nice point and click interface, from which the user can issue any commands necessary to create a picture.

There are two rendering modes: Wireframe and Ray-Trace. Wireframe simply draws a quick outline of the scene so that you can check its composition, but it's one of the slowest wireframe modes I've ➢

let's dance

ever encountered. Ray-Trace produces a full-blown 24-bit picture. On an ordinary A500, this can take hours to draw. Having said that, it seemed quite fast compared to other packages I've used, and compensates for the slowness of wireframe mode. When drawing a picture, a HAM rendition is created on-screen so that you can get an idea of how the finished picture will look. Unfortunately, there's no way to save this HAM version, so if you don't own a 24-bit board, you'll have to convert the finished picture via a package such as *Art Department Professional.*

At the rendering stage, there are a number of attributes – shadows, Phong shading and haze, for instance – which can be toggled on or off. When switched off, rendering times are greatly reduced, as is the realism of the finished result.

Two counters display the percentage left to be drawn, and the time taken so far. *Ray Dance* also supports animation, and can be used to define hierarchical relationships – the attachment of one object to another so that they move as a single unit. The package also provides Tweening, whereby the user indicates certain Key Frames, and the software works out all animation in between them. This feature can then save hours of unnecessary work.

When rendering animations, they can be started and ended at any position within the sequence. This makes the rendering of a few frames at a time possible, saving much valuable rime, and is considerably more perferable than having to leave your computer running for hours or days on end.

SAMPLE PROGRAM

This short routine displays a goblet that has been texture mapped as wood and bump-mapped with worm trails. It took three hours 43 minutes to render in 24-bit colour on a standard A500. It doesn't include the data to define the shape of the goblet as that is loaded separately.

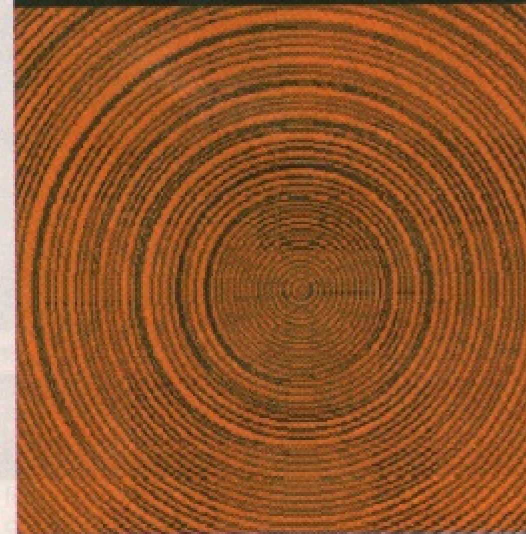
```
WHITE  : COLOR( RGB, [1.0, 1.0, 1.0] );
DKGRAY : COLOR( RGB, [0.5, 0.5, 0.5] );
BLUE   : COLOR( RGB, [0.1, 0.0, 0.3] );
GREEN  : COLOR( RGB, [0.0, 0.2, 0.1] );
DULL   : SURFACE( SIMPLE, 1.0, 0.0, 0.0, 0 );

SHINY  : surface( PHONG, 0.4, 0.8, 0.9, 10.0, 0.0, 0.0,
         0.0, 0.0, 0 );
ROCK   : surface( PHONG, 0.3, 1.0, 0.2, 8.0, 0.0, 0.0,
         0.0, 0.0, 0 );
canals : bumpmap( "canals.ilbm" );
wood   : texturemap( "wood.ilbm" );
!! Object to import...
tm1 : texture( plane, wood, [0,0,0], [0,0.5,1], [-1,0,0],
      400,400,400, 3,2, SMOOTH3|REPEAT );
bm1 : bump( sphere, canals, shiny, 3.0, [0,0,0],
      [0,0,1], [-1,0,0], 3,2, NEGATIVE|REPEAT );
gob : import( "goblet1.bin", [0,0,-150], [30,30,30],
      [0,180,0], [1,1,1], 0 );
gob.color[14] = tm1; ! replace yellow
gob.surface[1] = bm1; ! replace glossy
!! Lighting...
star( [15000, -8000, 15000], [1.0, 1.0, 1.0], 1000 );
star( [-5000, -2000, 2000], [0.8, 0.7, 0.7], 1000 );
ambient( [0,0,10000], [0.3,0.3,0.3], [0,0,1], 0.0, 0.0 );
!! Ground and background...
background( PLAIN, [0.05, 0.1, 0.05] );
!! Camera stuff...
CAMERA'POS    = [0,-800,200];
CAMERA'TARGET = [0,0,-30];
RENDER;
```

This picture shows how different materials, textures, and surfaces can transform an ordinary vase. The outer pair both feature texture-mapped surfaces, whilst the two at the back demonstrate the varying levels of transparency. The centre vase utilises the package's bump-mapping – a particularly effective system. Note that the bump-mapping hasn't affected the object's shape, though, as can be seen with the smooth edges.









A simple goblet can be quickly transformed into something magical with Ray Dance's bump-mapping capabilities. First, a wood brush is projected on to the goblet as a texture map. The worm trail pattern is then used to give the impression of contours. Finally, the new object is rendered in 24-bit colour.

RAY DANCE
. . . a t a g l a n c e

• Cheap Price • Automatic tree and landscape generation • Variety of texture and bump-mapping options • Imports objects from other packages • Script driven • Requires a reasonable understanding of maths • 24-Bit output

CONCLUSION

Ray Dance is an exciting package offering many features not found in other packages (tree growth, two types of fractal generator, algorithmic object definition), and this is especially good at tne package's low price. As it's script-driven, potential users may be put off, but it's actuallyfairly simple, and can be rapidly grasped. It's a pity that the output is only in 24-bit IFF, as most users don't own a conversion program or a board capable of displaying the pictures. As you can define objects in algorithmic form, though, you can create scenes which have hitherto unseen accuracy, and this precision is *Ray Dance*'s greatest strength.

Although it doesn't offer enough to warrant throwing your other packages away, this is an ideal accompaniment for any other ray-tracer on the market, and new users may want to consider *Ray Dance* in preference to other, more expensive, systems.

VERDICT

Budget priced package that's big on features

EASE OF USE	70%
VALUE FOR MONEY	85%
EFFECTIVENESS	90%
FLEXIBILITY	95%
INNOVATION	80%
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Useful for removing ugly borders when using NTSC software. (Works only with newer Agnus chips).
- **SLOW MOTION MODE**
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!
- NEW **MANY MORE INSTANT CLI COMMANDS -**
like Rename, Relabel, Copy, etc.
- **RESTART THE PROGRAM**
Simply press a key and the program will continue where you left off.
- **FULL STATUS REPORTING**
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.
- **POWERFUL PICTURE EDITOR**
Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!
- NEW **JOYSTICK HANDLER -**
allows the user to select Joystick instead of Keypresses - very useful for many keyboard programs.
- **MUSIC SOUND TRACKER**
With Sound Tracker you can find the complete music in programs , demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!
- **AUTOFIRE MANAGER**
From the Action Replay III preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!
- NEW **IMPROVED RAM EXPANSION SUPPORT.**
Now many more external Ram Expansions will work with all Action Replay III commands.
- **DISKCODER**
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. 'Tagged' disks will only reload when you enter the code. Very useful for security.
- NEW **SET MAP -**
allows you to Load/Save/Edit a Keymap.
- **PREFERENCES**
Action Replay III now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.
- **DISK MONITOR**
Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.
- NEW **IMPROVED PRINTER SUPPORT -**
including compressed/small character command.
- **DOS COMMANDS**
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.
- NEW **FILE REQUESTOR -**
if you enter a command without a filename, then a file requestor is displayed.
- **DISK COPY**
Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.
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BRIGHT SPARKS

So you've got a burning desire to turn your Amiga into a home electronics lab, but you don't know how? Mat Broomfield makes the connection.

WE HAVE THE TEKNOLOGY

When you consider that most of us spend countless hours each week glued to our computers, it's funny how little we know about the fundamental workings of the machine – especially when you consider that, at a really basic level, almost any electronic device can be reduced to just a handful of simple components arranged in a specific way.

Tekno Amiga is a new product from sunny Sweden, and aims to teach the user about simple electronics whilst guiding them through a series of experiments. What makes it particularly interesting, is that it includes a circuit board which plugs into your computer, and allows you to combine the electronic monitoring facilities of your Amiga with the simple circuitry you'll hopefully go on to design.

CIRCUITS ACTIVATED

The essential parts of the unit are a parallel interface which plugs into the Amiga's printer port, and a nine-pin D plug for connection with the joystick port. However, to save the novice from accidentally blowing up their Amiga as they link the system up, the parallel port contains a small isolating circuit which will prevent any unsavoury accidents. In addition, the whole set-up is then linked by its two plugs by a seventeen-strand ribbon cable.

The circuit board is a 9x6" piece of transparent plastic, with 216 circular holes drilled into it. And in these holes, there is enough space for the supplied metal springs to be inserted and screwed down. Similarly, to aid the user as they attach the various wires, each of the holes is labelled to save any confusion. Also supplied are a selection of different components, including resistors, capacitors, LEDs and diodes. Before you can get experimenting, the springs must be inserted into the board and, despite the large number of holes, only thirty-two are actually needed. The manual describes which holes to screw the springs into, and also tells of the best way to do it. Once they're fitted, the springs protrude slightly from the underside of the board, whilst leaving roughly a centimetre free on the top side to play around with.

With the board set up and ready to roll, it's time to make those first connections. Basically, this involves the linking of fourteen of the springs with a section of unshielded wire used to create a ground between three or more of the springs.



The main advantage of *Tekno Amiga* is that it ties in closely with the current National Curriculum. It's flexibility is another boon, as it can be used to monitor everything from temperature changes (using a thermal resistor to register changes) to light measurement.

These are then attached to the ribbon cable. This can be a very frustrating job, and the manual makes no bones about it – in fact, it advises the user to 'bite the bullet'. Personally, though, I never really had any problems, and found that most of the required connections could be made in less than fifteen minutes.

ACTION STATIONS

With the board set up, the experiments can begin – blimey, I'm starting to sound like Doctor Frankenstein! The first of these is basically a simple test to ensure that the board has been connected properly. The unit is supplied with umpteen different programs, four of which will play a sampled sound when certain connections are made. Because of the way the springs are positioned on the board, many of them can be touched together to form a simple digital (on/off) switch. Ten of these (arranged in pairs) are monitored by the sound generator, and providing everything's working properly, the user is rewarded by an abstract sound effect when he brings them together.

MANUAL LABOUR

From that small step, it's on to greater things, whilst following the manual's step-by-step instructions. However, for what is quite a complicated and novel piece of equipment, the pidgin English which it has been converted to is a little perturbing. Still, oddities aside, it's still quite an entertaining read and is even better than a few English manuals I could mention. It does, however, have an annoying habit of skipping crucial details, and often refers to parts which are not included with the basic kit, and seem to be assuming that the user has access to a reference book they recommend you read – this last point is especially annoying when you encounter phrases like 'You've memorised the rhyme "The black gnome is null, One brown bear" etc, haven't you? When you have, load in the "Resistance" program and read page 2 of chapter 3'. In addition, the entire section on resistors is made even more difficult because you're supposed to have already read The Electronic School's Basic book! It wouldn't be so bad if they at least told you where to get the books from – after all, are we talking the Scandinavian or British Electronic School? And if this book is so essential, why wasn't it included in the package?

Gripes aside, though, the manual goes to great lengths to encourage the user to experiment on their own, even going so far as to include a little ego-boosting chant for you to say if you're not feeling very imaginative.

The second section begins a Blue Peter-style demonstration of how to make switches using bits of cardboard and strips of Bacofoil. It continues by giving examples of how these can be adapted to create pressure-sensitive alarm systems, timers, and ball ➤

TEKNO AMIGA
...at a glance

- DIY electronics kit for the Amiga
- Provides lots of practical examples
- Manual not very explicit
- Ideal for schools
- Limited long-term appeal

BRIGHT SPARKS

games which will signal if you hit a Bull's-eye. These 'learn as you do' examples are very useful as they help get the creative juices flowing, and whet the appetite for further learning – essential in a tool like this. Another nice touch is that this method of tutorial and experimentation ties in with the new national curriculum, making the kit ideal for younger users.

ADDRESS BOOK

Tekno Amiga retails for £84.95 for the basic kit, and is available from HB Marketing, who can be contacted via Concorde Building, Unit 3, Doyle 14, Colnbrook, Berks. SL3 0DX. Alternatively, give them a ring on (0753) 686000.

Progressing to more interesting topics (such as photo-sensitive resistors which react according to the amount of light falling on them), yet more practical applications are suggested. How about a detector which tells you if someone's been rummaging around in your drawers? Younger Kids thrive on this secret agent stuff, and if the topic catches their interests then they'll want to explore further – but don't think it's limited to them. As the concepts are gradually introduced, and build on knowledge that's been learned from earlier experiments, this is an interesting activity for adults, too – after all, how many times have you heard someone say 'I wouldn't know one end of a computer from another'?

This becomes evident in the latter parts of the manual when, using a specially extended version of Basic, the user is able to explore many binary functions, including Boolean logic. By connecting eight LEDs to the board, it can essentially be configured to represent a byte of data. By inputting different commands (in the form of Pokes), these lights can be used to show the status of usually hidden functions.

All in all, *Tekno Amiga* reminded me of an advanced version of those home electronics kits that you may have tinkered with as a kid. I was a little dubious about plugging it into my Amiga, but my fear was unjustified and I didn't encounter any major problems. Because the *Tekno* uses cheap and easily available components the package also offers a twofold advantage: they can be easily replaced should you damage any – and I have no doubt that wear and tear and rapid loss of components will soon take its toll. Similarly, you can also buy additional parts if you want to experiment further, and this adds to the package's already plentiful longevity.



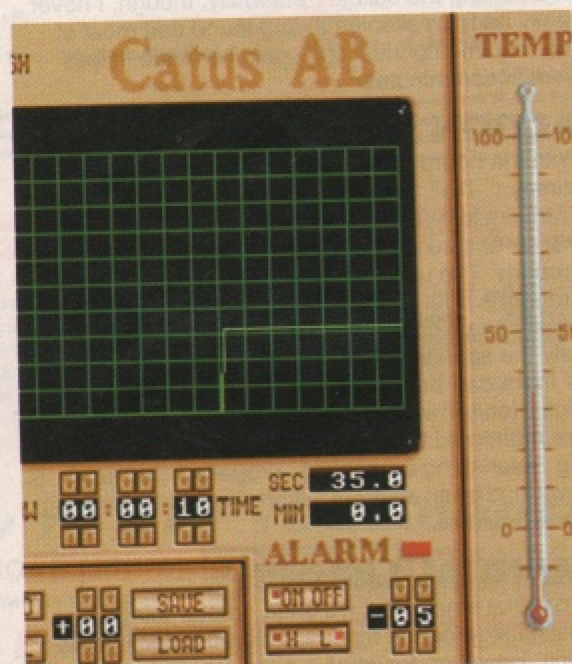
Using a pulse counter and the Speed program, it's possible to calculate the speed of any moving object.

THE ELECTRONICS REVOLUTION

Modern day electronics owe their birth to observations made by Thomas Edison in the early part of the century. He noticed that under certain conditions, an ordinary light bulb displayed some unusual properties. For some time, his observations remained unexplained, until eventually an English physicist, J.J.Thomson came up with an explanation which lead to the development of the vacuum tube, also known as the valve.

This newly-created device allowed scientists to control electricity in ways that were hitherto undreamed of, and it was also thanks to the valve that the first computers were developed. In fact, early computers hold the dubious distinction of being the largest vacuum tube systems ever built, with ENIAC (the Electronic Numerical Integrator and Calculator) one of the largest. It contained a staggering 17,468 tubes, and was able to calculate up to 5000 mathematical operations per second, 1000 times faster than its rivals of the day.

Modern day computers use solid state electronic circuitry and have been massively miniaturised in the quest for portability and power. The latest challenge to computer designers, is to create machines which can perform over a trillion (a million million) calculations per second. These machines are dubbed TeraFlop super-computers (Tera=Greek for a trillion Flop=Floating Point Operation). The fastest computer in the world, Intel's Touchstone Delta, can only operate at a measly 13.9 billion calculations per second. Ironically, in the quest for greater speed using parallel processors, room-sized computers are again becoming commonplace.



The Amiga becomes even more flexible, as *Tekno* can even turn it into a thermometer - although it's rather a dear one!

CONCLUSION

The manual could have been written a little more clearly, but, in a strange way, this vagueness forces the user to experiment, and helps reinforce the subject matter. The package seems ideal for any educational environment, such as a school – particularly as it ties in with the new curriculum. A selection of well-written programs enable you to monitor temperature and light changes over any period, create timers, pulse gauges, and a variety of other tools. If you want to learn about electronics, this is a very good accompaniment. But go out and buy yourself a decent book on the subject too!

THE SOFTWARE

***Tekno Amiga* comes with a selection of useful software to help you get the best out of it. Here's what you get:**

Sound 1-4: Four programs which play a sample when a switch is activated.

Reaction: A game to test your reactions when closing five switches.

Timer: A stopwatch program.

Speed: A program for calculating the speed of a moving object using analogue or digital inputs.

Calendar: A program which can be used to regulate your environment by activating lights, triggering burglar alarms, etc.

Pulse Counter: Counts digital and analogue signals and can be used as a timer, or even as a movement sensor.

Temperature: A routine which displays the temperature via a thermal resistor. Can be used as a simple thermometer as part of school projects, or as part of a thermally-activated switch.

Light: Measures and displays the amount of light entering a photo-sensitive cell. Again, it can be used as part of class projects to monitor weather or sunlight. Or, alternately, can be incorporated into more sensitive experiments.

Resistance: A neat program to test your knowledge of resistors and their values.

Tekno Basic: A variation on Amiga Basic which include special commands to control the *Tekno Amiga* circuits.

VERDICT

Plenty of educational value but let down by its manual.

EASE OF USE	85%
VALUE FOR MONEY	70%
EFFECTIVENESS	75%
FLEXIBILITY	95%
INNOVATION	90%
OVERALL	**83%**

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makin' movies

The expanding world of multimedia and video applications for the Amiga has drawn a lot of software into the fray. Chris Jenkins looks at two packages trying to find their way in a confusing world.



***Left*: Even if you are simply adding captions to a video of Aunty Doris's 100th Birthday, you'll struggle unless you invest in a decent titling package. In addition, the advent of fades and wipes will add class to your work.**



If you have an Amiga and a video camera, the easiest way to make the most of this potentially-exciting combination is with a captioning package. With these, the user can create titles and captions for insertion between shots to make your videos more informative, interesting and professional. Even better, used in conjunction with a genlock, the Amiga's graphics can be superimposed over a live video. To take it a stage further, you can then combine audio and visual data from several sources for a presentation – this is Multimedia. Multimedia – the combination of computer graphics, text and audio – is one of today's buzzwords. It's such a complex concept that the trick is to create software which can handle multimedia presentations whilst still manageable.

TV*SHOW & TV*TEXT

Although there are inexpensive and easy-to-use packages – Alternative Image's *Big Alternative Scroller*, for example – for a more powerful combination you should check out Zuma's *TV*Show* and *TV*Text*. Originally available as two separate packages, they have been bundled into an excellent £159 compilation courtesy of UK distributor, Silica Systems.

Although *TV*Show*, the presentation program, and *TV*Text*, the font rendering module, would appear pretty complex to a video operator new to the the Amiga, they are still a great deal simpler than, say, Oxxi's *Presentation Master*, and the *TV* duo are more squarely aimed at the video production market.

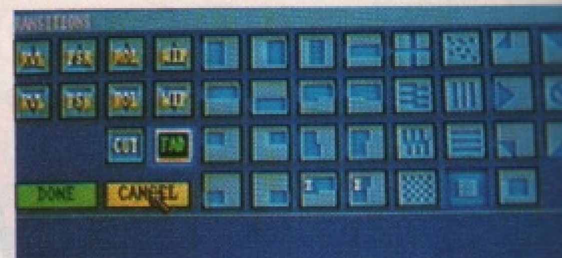
Described as 'the special effects slideshow for graphics, animations and sounds', *TV*Show* is packaged in a stout cardboard box with a spiral-bound manual and two disks; one containing the main programs, the other a selection of IFF-format clip art and backgrounds. On the program disk are a player program, which allows you to play *TV*Show* scripts without the main program, and the main edit program, which creates the scripts. Although the package can be run on any Amiga, you are recommded to install it on a hard disk to ensure that memory limitations aren't a problem when creating more complex 'scripts'. *TV*Show* is also compatible with all Amiga screen modes (including HAM, overscan and extra halfbrite).

SCRIPTS

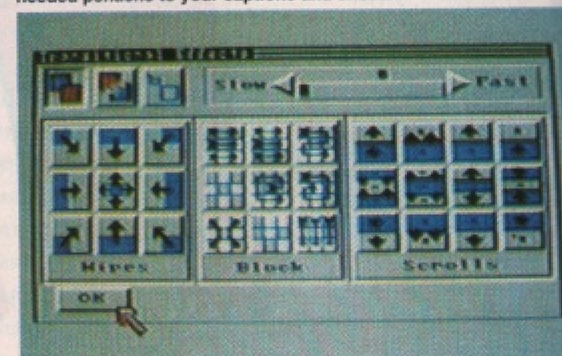
The Edit program runs using the familiar system of pull-down menus and icons, and these are integral in the creation of *TV*Show*'s 'scripts'. A script consists of a series of events, where each event involves an object (either a caption or a graphic), an 'on transition' (the way the object appears on-screen), a duration, a colour-cycling option, a sound option, and finally an 'off transition'. String a load of these together and you have a script – it's easy!

To begin a new script, select New from the Project Menu, and give a name to the new script. Next, move to the Create Event window. Each icon

makin' movies



*TV*Show* offers a good selection of Wipe effects, but *Presentation Master* features slightly more. This variation can add much-needed penache to your captions and effects.



The speed an effect takes to work can be adjusted, too. This can then be used to synchronise with any music you may be using.



A useful *TV*Text* feature is that IFF files can be imported from, say, *DPaint* and overlayed.

These are just some of the advanced effects that can be achieved using *TV*Text* – the text rendering part of the package. All of the examples shown were produced in IFF format, and imported ready for insertion. As you can see, this can then be used to produce exactly the style you require, and can add individuality to the piece. For instance, you can use old-style text for, say, an old relative's Birthday video.

within this area represents a different type of event – screen, object, animation, and so on – you just click on the one you want, and this brings up another edit window with the necessary options for the chosen event.

The utility's many parameters are set by typing numbers into windows, clicking on icons, or adjusting sliders. As you build up a series of events, you can specify whether they are to take place automatically in the final script, or if they are triggered by a function key – when adding titles to a video, either option can be useful. Events can also be programmed to loop repeatedly until interrupted by a keypress.

ADDRESS BOOK
Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX. Tel. 081 308 0888. Price £159.

One of the most impressive parts of *TV*Show* is its range of transitions. These allow you to introduce objects on-screen in over forty different ways, including fading , directional scrolling, splitting, and appearing from beneath other objects. Unfortunately, the manual is limited in its explanations of these, so experimentation is the key.

*TV*Show* can also cope with IFF Anim format animation files and if have created an animation using, say, *DPaint*, they can be incorporated into your *TV*Show* scripts with ease. It can also handle sound, either by playing IFF samples or using the Amiga's text-to-speech routines. Both are useful in video production, whether it's adding narration to captions or appropriate music and sound effects to movies. Since the script is easily edited, any changes to the video can be incorporated into your scriptor they can be merged or appended; a ScriptMover utility also makes it easy to transfer the main file and any necessary to run it.

TV*SHOW/ TV* TEXT

. . . at a glance

• Event-based graphics presentation • IFF graphics and sound compatible • Text-to-speech option • 1Mb preferable • IFF-compatible caption generator • Advanced font rendering features • Range of effects and editing options

RENDERED FONTS

As a presentation editor *TV*Show* is great, but it doesn't have facilities for the actual creation of graphics or captions. This is where *TV*Text* comes in. With a terribly inadequate menu supplied, it's just as well that *TV*Text's* font rendering and text-editing facilities are a doddle to use. The basic idea is to let the user create variations on the Amiga's system fonts, or of Zuma's large collection of IFF fonts, to consequently create captions as IFF files which can be used in *TV*Show*.

*TV*Text* runs in either medium (640x200), or high (640x400 interlaced) resolution using eight colours. You start with a choice of eight fonts, which are available in a number of sizes and styles. The New Text option allows you to enter a line of text, and alter the letter spacing. The Rendering Preferences screen is where the fun starts, though. From here, you can add three styles ofshadow (drop, cast and transparent) with variable depth and colour; strobes (repeated shadowing with varying colours); outline, edge and extrude effects; and lighting effects from nine different angles. These preferences can then be saved for later use.

After positioning the text on-screen it can be cut and pasted, whilst other options allow you to squeeze, stretch and resize areas using the mouse and a set of crosshairs. Other options allow the rotation and justification of text with a grid. There are also options for creating assorted background effects, such as centred, vertical or horizontal gradations, tiling and wallpapering, along with the more rudimentary lines, boxes, circles and ellipses. There's an Undo function, too, in case you make any drastic mistakes.

The rendering and editing effects can be applied to IFF images loaded from other sources, and this means that your selection of backgrounds and graphics is virtually unlimited. The colour palette is also freely adjustable, and easy to adjust using the range, swap and copy functions. You can also control colour hue, saturation and value.

CONCLUSION

The drawback with *TV*Text* is that it isn't actually a font editor – you can't build up typefaces pixel by pixel. On the other hand, with so many fonts available commercially or in via PD, why bother? With *TV*Text's* editing features you'll have a great time hacking lettering around and creating captions ideal for use with *TV*Show*. Together, these two programs make a powerful and reasonably-priced package which is ideal for a wide range of video and multi-media applications. Everything you'll need is here, and this is an excellent introduction to all things Video.

VERDICT

Flexible and easy to use, ideal for video production and multi-media

EASE OF USE	89%
VALUE FOR MONEY	79%
EFFECTIVENESS	88%
FLEXIBILITY	87%
INNOVATION	69%
OVERALL	**78%**

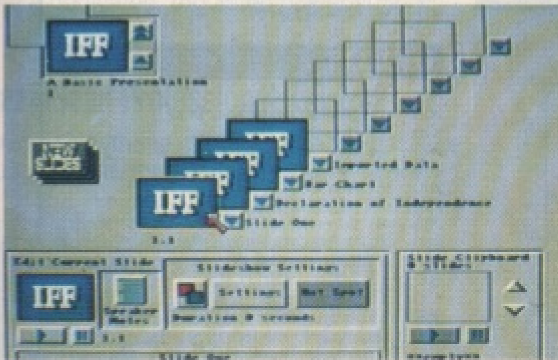
PRESENTATION MASTER

FAMILY HISTORY

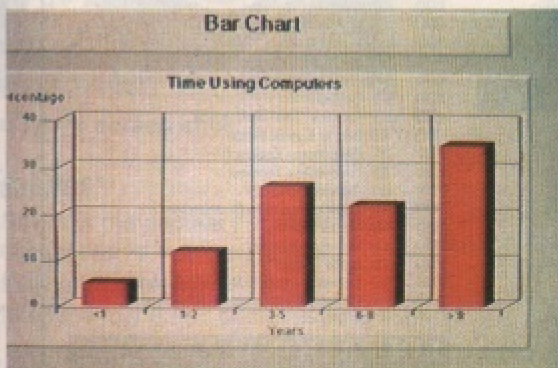
Aegis' *Presentation Master* from Oxxi comes from a long line of graphics and animation-based programs, it certainly shows the experience and knowledge of its programmers – however, this is at the expense of alienating the new user.

At £200, it's aimed at the pro or semi-pro market where time is money. Just reading the package's enormous 200-page paperback manual could take days, and installing the program is a marathon task.

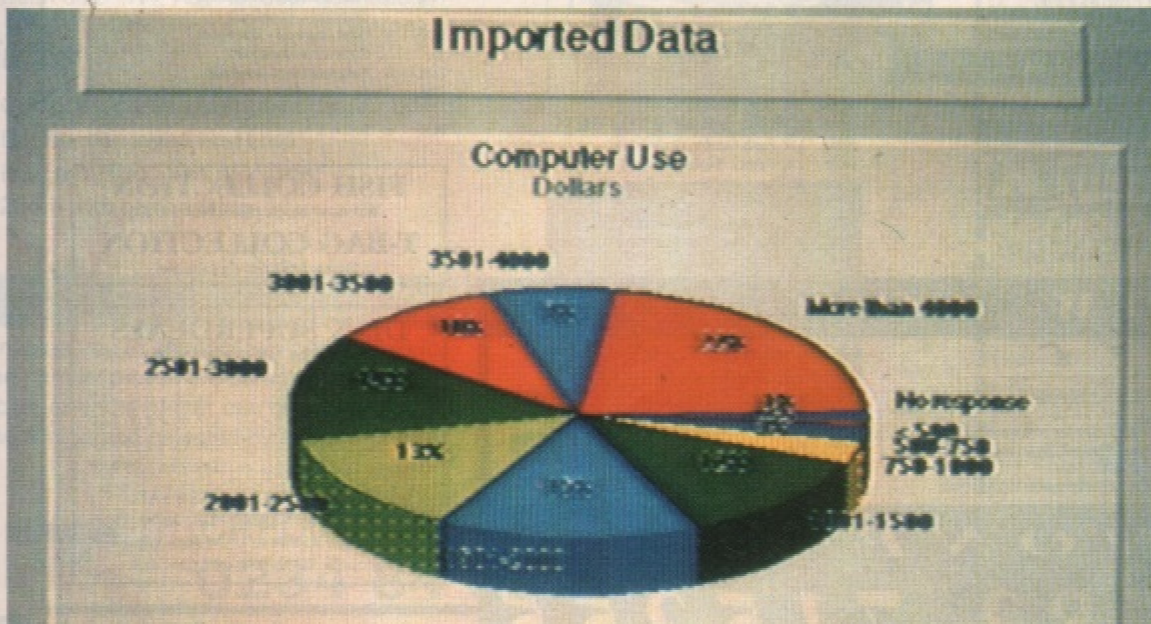
Presentation Master includes a full-featured object-oriented paint program, a 3D titling and text-rendering module, the ability to create business charts, and a slide-type presentation function (although it doesn't support audio functions). It operates using 24-bit internal colour files – but it's quite happy to accept IFF graphics from almost any source – and it can output in the PostScript language used by laser printers, typesetting machines and other professional systems.



The importing of files is extremely simple, as is the selection of the piece you wish to store or retrieve.



As well as for home use, the business uses for such packages are endless – and very impressive.



INSTALLATION

The program comes on twelve disks, all of which are jam-packed with modules, fonts, backgrounds and clip art. You need at least 2Mb to run *Presentation Master*, but you don't need all the tutorial routines, fonts, and graphic files installed simultaneously – if you do it takes up 11Mb! Unless you enjoy endless amounts of disk-swapping and long waits, don't even think about using the program without a hard drive.

A special installation 'script' utility allows you to configure the program for your system and install it to your hard disk. However, all the data has to be decompressed, and this can take hours if you install the whole shebang. Once installed, your problems are only starting. Despite the manual's index and glossary, it's pretty unwieldy – the installation procedure, for instance, isn't documented until the appendices, and the 'fast startup' chapter is actually a long exposition of practically every facility of the program, rather than the quick demo you's hope for. Despite this, though, it will teach you virtually everything you need to know.

Presentation Master's basic working unit is the 'slide'. There are four different types of slide – empty, black, picture/animation and layered – and several default layouts combining text and pictures, although you can also design your own layouts.

LAY IT ON ME

The most flexible slide is the layered type. This combines text and graphics in windows, initially bounded by dividing lines and marked by handles. Each window – and there can be up to 50 – is known as a Layer, and on activation via the menu it can be edited. Comprehensive text processing functions allow the entering and editing of text in any Layer, and a moveable function box lets you such effects as italic, bold, and centering. ASCII Text can also be imported.

Once you have selected the first slide, others can be selected relevant menus. As an example, let's try a nice business presentation graphic – a bar chart, for instance. This time you want to work in a graphics window, so a graphics toolbox is automatically opened.

PRESENTATION MASTER

. . . at a glance

• 'Slide'-based presentation program • Requires 2Mb, hard disk • IFF and EPS graphics compatible, creates Postscript output files • 24-bit colour internal processing • Object-oriented paint program • 3D titling, text rendering and business chart modules

BOXING CLEVER

The graphics toolbox offers all the usual painting options of lines, polygons, fills, and zooms and uses a 256-colour palette featuring 16 basic colours, with the rest 'Dithered'. PM offers a family of default bar , area and pie charts templates. There are also options for vertical, horizontal, floating or parallel bar charts, and for other pie charts.

PM's third area of expertise is in object-oriented painting. In addition to the bitmap fonts, it can also handle IFF or EPS (Encapsulated Postscript) images, IFF animations and PolyText fonts. These are a special class of object which can be entered like text, and manipulated like graphics. The Paint Object menu lets you add shadowing, extrusions, edging, fills, rounded edges and other effects, and it's possible to completely redefine the shape of lettering or, using the paint functions, twist it into 3-D shapes. In addition, the colours and size can also be altered before saving them for use in your Show.

ON WITH THE SHOW

Shows are created using the Slide Sorter window. This displays your selection of slides in a 'rack'and these can be played or edited by clicking on the relevant button. Between slides, you can also select a range of transitional effects including nine directional wipes, twelve styles of scrolling, and nine block-reveal patterned effects. The speed of transitions is adjustable, and it's also possible to create slideshows where a Parent slide has several Children. The operator can then choose in which order racks of slides are shown by selecting them with the keyboard. It's also possible to define hotspots on the screen so that clicking on a particular area selects the next slide or series shown. The possibilities for multimedia applications are obvious.

Presentation Master shows can be 'vulcanised' – that is, saved in a stand-alone form with all necessary graphics files. These vulcanised shows can be played without the program itself, but, of course, can't be edited.

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Price £199.

CONCLUSION

Unfortunately, I have to end by saying that *Presentation Master* is a very powerful and flexible package, but is probably too complex, unfriendly and unreliable to be worth recommending. The package baffled me several times by refusing to load graphics files for no apparent reason – and examining the manual threw up no clues either. It also crashed for no recognisable reason when I tried to perform simple tasks – moving from the slide preview display back to the slide sort window, for example. It's not surprising that, with 11Mb of data to handle, the odd problem should arise, but it's disappointing that a program this professional is not better error-trapped.

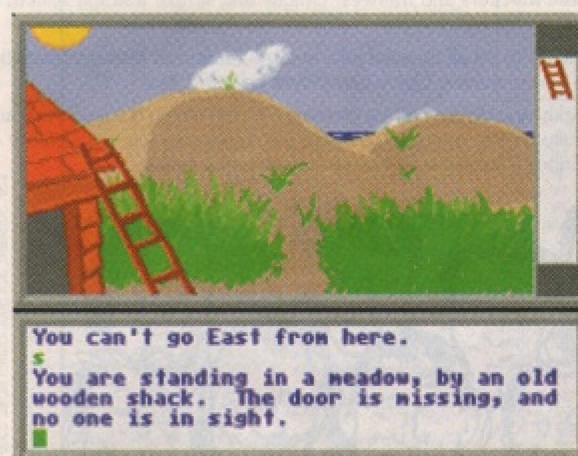
VERDICT

Complex, unfriendly, but undeniably powerful presentation package

EASE OF USE	45%
VALUE FOR MONEY	60%
EFFECTIVENESS	94%
FLEXIBILITY	89%
INNOVATION	76%
OVERALL	**72%**

At last the time has come for all you Role-Playing gamers to dig out your dusty modules and convert them to 3D real-time, action-packed computer adventures. Interested? Dungeon Master Craig Erskine certainly is.

dungeon mastery



The tutorial adventure supplied is very playable as well as a perfect example of the ins and outs of the *Visionary* system. It's reminiscent of the old dull advantures, but enjoyable nevertheless.



With a digitiser, you can quickly realise your worst nightmares - in this case, *Attack Of The Evil Hobgoblins From Hillingdon.* The sound effects consist of a terrifying silence down a telephone.

VISION ON

If you've ever tried writing and coding an adventure game I'm sure you'll understand the horrendous difficulties involved. If you've never even tried (which probably indicates a more sensible slice of the population) for fear that your brain may explode, now's your chance.

There is still a certain amount of sweat, though. *Visionary* allows you to write either a text-only, text-graphic hybrid or graphic only adventure, using a system rather like a high-level programming language. If you've used C or Assembler, you'll know all about Source files, Compiling and linking. If you haven't, you're about to undergo your first programming adventure.

ROOM TO MANOEUVRE

Amongst its many features, *Visionary* offers up to 65,000 rooms and 65,000 objects to be created – enough to suit most people's needs. In addition, up to 4000 million characters of text are available to the user (roughly 50 telephone directories), and the package can make full use of IFF sound and graphics. It all sounds too good to be true.

Of course it is. If you were to attempt an adventure with 65,000 locations you would end up with more than 2 million lines of code. Slightly unrealistic – so let's acknowledge that small is beautiful, and be happy with a slightly more modest first adventure.

IN THE BOX

Visionary comes complete with two disks (a program disk and a graphic adventure demo) and a 160-page manual, a third of which is taken up with the coding for an example game. A further manual is supplied in the form of a Programmer's Handbook which comes with a third, separate disk containing a full graphic-text adventure. This second manual covers the actual game design and coding, while the first manual is more of a tutorial.

Not wanting to break with Adventure Creator lore, the manuals are very long and boring – by the time you've got to the end, you'll have forgotten anything you learnt at the start. The only way to really find out what it's all about is to jump straight in. This is made easier with the listing for a simple adventure supplied in the first manual. By having a quick look at it and viewing the general layout, you can see what your code should look like.

The first step in creating your adventure is to have a good idea of what you're going to do. Once you have the basic idea (number of rooms, what you can do, etc) it's off to your text editor for some serious programming. The Amiga comes with a usable(?) text editor called ED, but a word-processor can also be used if you prefer. Any WP will do, as long as it allows text to be saved in ASCII format.

Alternatively, you could go for *Visionary*'s own editor: VIE – the Visionary Interactive Editor. VIE allows you to select graphics elements using the mouse and rapidly define your adventure map in an environment much like an ordinary paint program. This is an absolute must if you intend writing a serious *Dungeon Master*-style adventure.

IFF-Y GRAPHICS

Visionary allows the user up to 25 graphic screens in memory simultaneously. IFF image files are supported, including HAM images. Within RAM limits these images can be imported from disk at any point during the game. Creating your own graphics can be a time-consuming task and your finished adventure will depend heavily on how good an artist you are. If you're not the artistic type, don't despair – find a friend who is.

SECRET CODING

Visionary uses a system of special files to keep all the source code organized, and to keep individual files from becoming large and unmanageable. There are five classes of source files, the first of which is the Adventure file which is the most important and easiest to write. This basically provides the system with key information such as the names of the other files, the password, variable names, and which room the player will begin the adventure in. There's only one adventure file per game, but any number of the other related files.

The password is a neat idea which allows you to protect your program and prevent anyone from looking through your source code for a few hints.

The other four classes of file are Room, Object, Subroutine and Vocabluary. Once you've written the basic adventure file, your next job is to define your Room file. Each room must have any possible exits defined, along with the necessary sound effects and object information. Following this, it's time to set up the areas on the screen which can be utilised by the mouse. Again, this is fairly straightforward: simply place all your objects, both moveable and immobile, and give the room a description. In the tutorial adventure supplied, this takes roughly 40 lines of code, and the process must be repeated for every location.

Once the rooms are set up, the game's objects

must be defined, and this involves giving each an initial location and a brief description. You must also give each object a series of possible uses, and a set of object synonyms which the player can use. 'Sand', for example, might also be referred to as 'dirt', 'the ground' or 'the floor', as well as by its proper name. The only drawback here is that for a large adventure with a lot of objects you are going to have an awful lot of code. This is only to be expected, but restricting the number of objects might not be a bad idea. However, an unfortunate side-effect of this is that incredibly huge adventures may be out of the question unless there is some brave-hearted Tolstoy blood in you.

There are a variety of tasks which must also be performed at the beginning of any game, such as loading in your nice graphics, adding sound effects and songs, new fonts, printing the game's opening text, or defining click zones. To make this source code easier to find and deal with, it can be put in a a subroutine called StartUp, which is only called for once. The Subroutine file is a special section of the code which performs key functions, and can be called from anywhere in the adventure. This makes it easy to perform a particular function repeatedly – movement inputs, clearing the screen, redrawing the screen, or printing text, for example. The final file – the Vocabulary file – defines all the nonstandard phrases, words, and special functions. In the tutorial the load, save and help sections are also stored here.

...DRESS BOOK
...ary software costs ...75 with the handbook ...sting an additional ...4.99. Available from: ...ecision Distribution, ...st House, East Road ...dustrial Estate, East ..., London, SW1G 1AR.

The coding is fairly straightforward, if a little long-winded, and the screen's layout makes it easy to follow and use. A good structuring of your adventure's code is essential, as you will often come back to rework your code during the course of development, and a little thought at the start could save you many extra hours of code-scouring later.

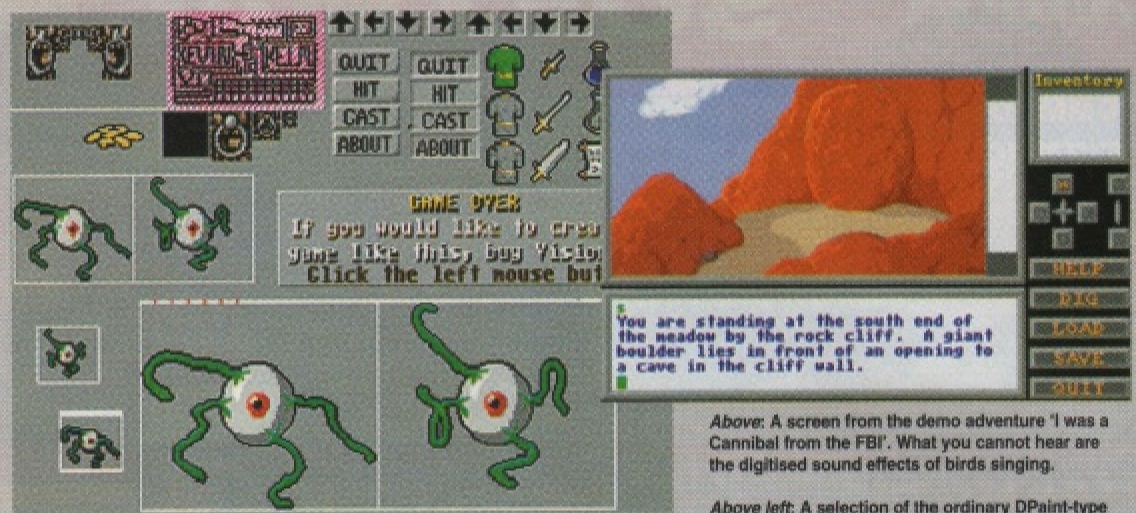
COMPILER TIME

Once you have completed your code, it's time to visit the Compiler. The Compiler is simple to initiate and is reasonably fast and translates the *Visionary* command language to machine-readable code. In the process, the source code files will be encoded using the password from the adventure file. This then prevents anybody from ripping off the nice graphics and sounds you've created.

BUG HUNTING

Compilation complete, your adventure is ready for a little wrinkle testing. Like any other form of programming, debugging is the process of having the computer help you search for errors in your source code. *Visionary*'s debugger utility, DBUG, allows the user to develop, play, and root out any bugs and errors in your adventure. The biggest asset of the system, though, is that it allows you to hunt them whilst actually playing your game. Instead of crashing, halting, or otherwise misbehaving, when the debugger runs across a problem or bug in your source code it allows you to look at the source of the trouble, and even provides additional information to aid you in the correction of the error.

While the debugger program is running, commands can also be sent to the program for greater control of the debugging process. Easy-to-use commands are entered in the text interface of the game, just as the game text commands would be.



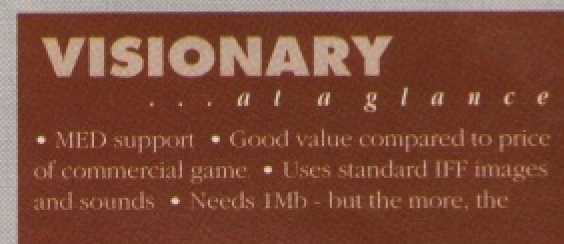


Above: A screen from the demo adventure 'I was a Cannibal from the FBI'. What you cannot hear are the digitised sound effects of birds singing.

Above left: A selection of the ordinary DPaint-type brushes used within the example Dungeon game.

Left: Another screen from the Dungeon game. The snake is animated, albeit slowly on a standard Amiga.

Below: More code, this time from 'I was a Cannibal for the FBI'



VISIONARY *. . . at a glance*

• MED support • Good value compared to price of commercial game • Uses standard IFF images and sounds • Needs 1Mb - but the more, the

MISSING LINK

The final stage to adventure stardom is the Linker, which miraculously transforms all those long nights and blinding headaches into the final executable format – hopefully a playable game.

There are several ways in which your code can be linked to speed your game up, but it will depend on the size of your adventure. The final output of *Visionary* will be a single file – the base size of your game program will be approximately 200k, plus your other files, which in the case of the tutorial took a further 40K. Be sure that, before you link your final game, that you have enough disk space for the output file. Your adventure may be a lot larger than the turorial!

CONCLUSION

Visionary has excellent potential if you're willing to spend a large amount of time and effort creating your own adventure. On the downside, the overall speed and response time leaves something to be desired.

There's a nice disclaimer at the start of the manual, which says the publishers take no responsibility for the quality and performance of the finished adventure. How good the game is depends on the plot and ideas, not on who converts the concept to a runnable program – so what they are basically saying is that, if your adventure isn't quite the epic you'd originally hoped for, don't blame them! It's totally down to yourself.

Visionary does make adventures easier to program, but even the most experienced Visionaries will need a lot of time and effort to come up with anything like *Dungeon Master* or *Eye Of The Beholder*. It certainly makes you appreciate all the time and effort commercial programmers put into their games and makes the inflated asking prices of such games a bit more palatable to bear.

MED-ICATION **As with the graphics, sound is very important to the overall effect of the adventure. Visionary allows you to have up to 25 sound samples in memory at any given time. Theoretically, you could play complete sections of sampled music in this way, but the cost in memory terms would be prohibitive. A more sensible alternative is to use *MED*, which *Visionary* fully supports. Sound effects can help to build atmosphere in your game. Doors slamming, ghoulish laughter, distant screams, even the monotonous hum of a computer or a ship's engine all heighten the player's appreciation of the game. You should decide early on in your game development process just how many samples you are willing to use, since this will determine how many disks your game is going to occupy. Keep in mind that incessant disk access will bother the player, though. Once again, if you're not a great composer, get some help with the music and sound effects.**

VERDICT

Adventure creating kit which is the best presently available

EASE OF USE	80%
VALUE FOR MONEY	90%
EFFECTIVENESS	70%
FLEXIBILITY	95%
INNOVATION	99%
OVERALL	**87%**

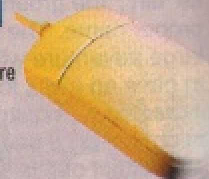
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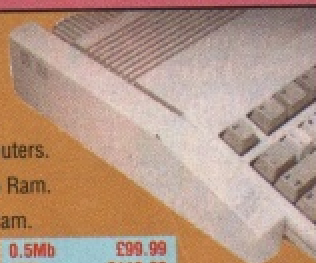
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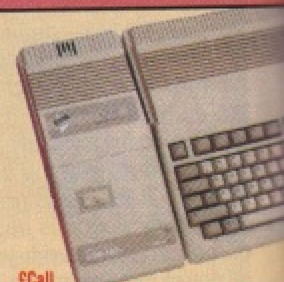
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left: It may look professional, but this Amiga Draughts demo was knocked out in just half an hour. After drawing the board and pieces using *Dpaint*, I simply placed them all on screen, ready for insertion in the game.

amos made easy

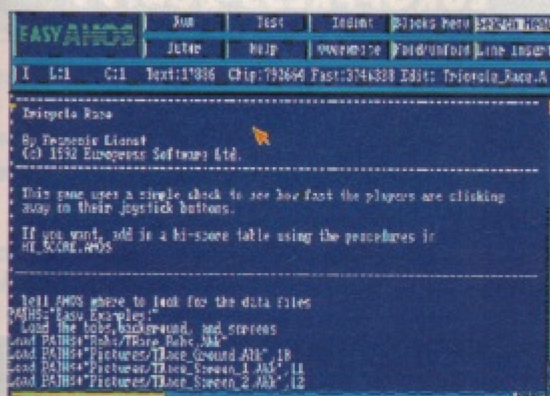
It's back to basics, as Tony Dillon gets to grips with Europress's 'Baby' version of their classic *AMOS* programming language...

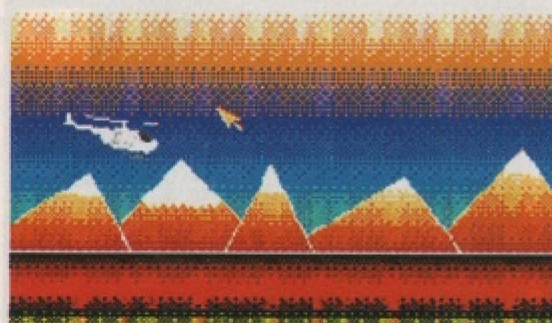
EASY AS 1,2,3...

As a practising BASIC programmer it's no wonder that I'm constantly praising *AMOS* within these hallowed pages. For people like me, it offers programming power which is far easier to use than BASIC. But what if you're one of the people who wants to learn to program, but doesn't know where to start? *AMOS*, with its 500 commands can be very intimidating for the novice, and gives no real anchorage in encouraging early progress. Realising this, Europress have been busy on this new, 'L-plate' version – *Easy AMOS*.

In brief, *Easy AMOS* is a cut-down version of the original package, with a lot more support for the programming novice. Help screens and menus, along with an excellently-written and presented manual, provide most of the required answers to any problems encountered in the early stages of programming, and should see most people well on their way to success.

AMOS was originally designed as a friendly interface between the user and the Amiga, and offered easy access to the machine's hardware capabilities, without all the usual tedious mucking about with assemblers. An adaption of the old Beginner's All-purpose Symbolic Instruction Code (BASIC) language, *AMOS* uses straightforward English commands that do exactly as they say, and can be set out in a simple, logical format. The format was an immense success, making *AMOS* second only to *DPaint 2* as best-selling Amiga non-games software, and has currently sold over 45,000 copies in the UK. Even though it provided the beginner with a complete, easy language with which to start creating, it didn't give any pointers as to what the budding Andrew Braybrook or Archer McClean could actually do with their new-found skills – rather in the same way that comprehensive schools teach you a whole bunch of useful French phrases, but you have to wait until A-Level standard before you learn how to hold a basic conversation. *Easy AMOS* is the A-level teacher, and teaches you not only how to program, but also goes some way into aiding understanding of how to implement your knowledge.





Anyone remember this one? *Choplifter* uses a very simple scrolling technique which moves a small window over a large screen, giving the impression of movement.

MANUAL LABOUR

The first thing you notice onu opening the box is the hefty 400-page manual. Flicking through this, it becomes apparent just how well everything is presented and explained. No facet of using the package is ignored, whether it's how to load and install the program, or advanced games creation techniques. Everything is accompanied by easy-to-enter examples and full descriptions of how each command can be used. To add a fun element to the manual, in the corner of every page is a small picture, and these act as frames from a flick book, and when skimmed through follow the birth of the *Easy AMOS* , and follow its rapid aging process. Also scattered through the manual are a collection of amusing misquotes from such luminaries as Groucho Marx, Martin Luther King and Michael Stipe. These make the manual a delight to read, ➤

amos *made easy*

even to the more experienced programmer.

Next comes the installation program, a lengthy process which involves copying and unpacking the *Easy AMOS* files from the two master disks and dumping them on to three blank floppies. It's impossible to run *Easy AMOS* from the master disks, and this ensures that the disks can't be damaged by accidental use. The installation process takes about twenty-five minutes, but is the only delay before diving straight in and trying your first program.

At first glance, *Easy AMOS* bears a huge resemblance to the original *AMOS* – the only initial difference being the different screen colours. On closer inspection, there are several notable changes. For a start, the program greets you personally, the name entered during the installation process. Also, there are a few changes to the menu bar at the top of the screen. Options such as Help, Tutor and Bob Maker are now included – the first two options are the core of *Easy AMOS*. The Help option is provided as a more useful reference tool than constantly picking through the manual. Entering a command in the main edit window and then accessing this option gives an instant description of the command, and describes exactly what it does and how to use it.

ADDRESS BOOK
***Easy AMOS* retails for £34.99 and is available from Europress Software, Europa House,Adlington Park, Macclesfield SK10 4NP**

Similarly, the Tutor option takes you to the test/tutor screen, which is unique to *Easy AMOS*. The aim of this is to help you examine *Easy AMOS* programs, and find out exactly how they work and what they do. Laid out as four screen windows, the tutor allows you to run a program using one of three speeds and check, test, debug, or simply watch a currently-initialised program. The window in the top-right corner is a shrunk version of the main program screen. In this, you can watch the program running with a reduced display if the current screen is in low resolution, or as part of a screen if it is in any other format.

ICON HELP

The next window is the icon window, positioned to the left of the shrunken screen. All icons necessary to run the program are shown here, and you can scroll around the screen and mark any specific parts of your program you wish to examine. All these windows are accessed via the mouse, and to run the program, simply click on one of the three speed icons. The first moves the program onto the next instruction, whilst the next runs the program at half speed, and the last running it at full speed. It can be stopped by clicking on a stop icon.

Below this are two text windows: one for the current program's line, and the other for relevant information. This could be anything from telling you that the line does nothing (as in a REM statement), to telling you which branch of a conditional procedure call the program is going to jump to, as well as informing the user of the current status of any accessed variables.

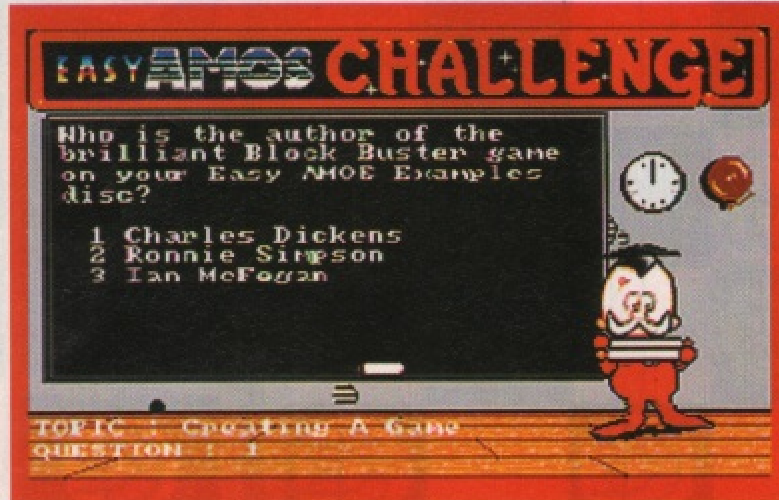
As far as I am concerned, the Tutor idea is a stroke of genius on the part of AMOS coder, Francois Lionet. It's a huge aid to someone learning programming, and gives them a chance to understand why certain routines are written in a specific way. Once that understanding is grasped, the art of programming becomes much more accessible.

EASY AMOS ...at a glance

• Very User-Friendly • Fast learning curve • Offers impressived results to the beginner • Plenty of room for expansion • Stacks of examples

UPGRADING Existing *AMOS* owners can get hold of a copy of *Easy AMOS* for a mere £14.99 – although surely anyone familiar with the original is unlikely to want to take what is effectively a retrograde step. Simply send your original *AMOS* program disk with a cheque/postal order payable to Europress Software to: *Easy AMOS* offer, Customer Services, Europress Software Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP. Similarly, *Easy AMOS* owners can upgrade to *AMOS* for only £19.99.

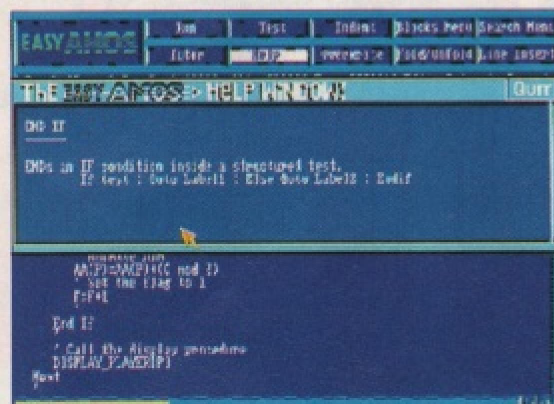
If, however, you are an *AMOS* owner and would like features like the tutor screen, but don't want a copy of *Easy AMOS*, then *AMOS 2*, currently billed as *AMOS Professional* is scheduled to hit the streets at the end of the year. This super-expanded new language will contain all the new features of *Easy AMOS*, along with quite a few surprises.



Once all is done, why not take the *Easy AMOS* challenge? This set of twenty contests checks you on everything *Easy AMOS* has to offer. Score 100% for a nice surprise...



Above: Yet another stunning *Easy AMOS* game, this time an *Arkanoid* variant with all the bells and whistles. What's more, the manual teaches you how to program it!



Stuck on a word? Clicking on it and on the Help box in the top row gives you instant reference to the commands and tools of *Easy AMOS*.

AMOS VS EASY AMOS

OK, so Easy AMOS is a cut-down version of AMOS, but what exactly are the differences between the two?

	AMOS	Easy AMOS
Commands	500+	350
Add-on commands	Yes	No
Animation language	Yes, AMAL	No
Dropdown Menus	Yes	No
Sprites/Bobs	Both	Bobs only
Runtime system	Yes, RAMOS	No
Compiler	Yes	No
AMOS 3D	Yes	No
Sample Bank	Yes (Limited)	Yes (Advanced)
Screen Packer	No	Yes
Help	Limited	Advanced
Price	£49.99	£34.99



The *Easy AMOS* tutor in all its glory. At the moment it's working its way though Tricycle Race. Note the comments in the bottom window.



Another of *Easy AMOS*' high spots, the Bob Editor is a huge improvement over the original's. It now features much more options and easy-to-identify icons.

CONCLUSION

Don't be fooled into thinking *Easy AMOS* makes programming an easy process. You've still got to put a lot in to get a lot out. *Easy AMOS* basically equips the novice with all the tools you need. The rest is down to you. *Easy AMOS* is an ultra-friendly package which can teach virtually anyone the fundamentals of programming. This it does brilliantly, and forms one of the strongest packages I have ever seen.

EUROPPRESS £34.99

Teaches the basics of programming. Perfect for beginners...

EASE OF USE	96%
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INNOVATION	92%
OVERALL	**93%**

Printers Buyer's Guide

hubble

Choosing the right bubblejet printer is a difficult task. John Mallinson is here to help you make that all important purchasing choice.

HOW WE SELECTED THE PRINTERS

Buying a printer these days can be a pretty confusing affair: there are so many types to choose from – from dot matrix to Bubblejet, daisy wheel to thermal transfer – and when you add to that the huge variety of features on offer and the vast differences in prices, it's not surprising that many consumers don't even know where to begin.

Our comparison test is designed to bring you practical, objective information on Bubblejet printers, which are increasingly popular because of their high print quality, lack of noise, and general value for money.

The printers we've selected are divided into three price bands. These are based on the manufacturers' Recommended Retail Prices and are intended as a rough comparative guide. If you shop around, you can expect to pay at least a third less. Each printer was tested with several programs to gauge how well it worked with standard Amiga software, its ease of use, speed and the quality of print.

BUDGET PRINTERS — UNDER £400



Three of these machines are built around the same Canon print mechanism, and one is based on the HP DeskJet. They are all priced under £400 and can be considered basic models, but nonetheless reliable ones. Next month we'll take a look at more expensive models.

bubble



Canon BJ10ex

The 'original' Bubblejet still gives value-for-money

When it was released in 1990, the BJ10e was the first really high-quality portable printer, and it hasn't been beaten yet. The 10ex (with Epson LQ compatibility) went on sale this year. A modified version of the original, it uses a 64-nozzle print head which produces 360 dots per inch (dpi).

Neat, sleek, and cleverly designed, it is just over A4 size and two inches thick, so it fits easily into a briefcase. Its normal working position is sitting flat on the desk; the top opens to reveal the paper-feed slot for single sheets and to provide a rest for the paper as it emerges. It can also stand vertically, supported by a flip-out foot, so that you can attach the optional sheet feeder or print envelopes through their own direct feeding slot. Envelope printing works very well, and although the feeder only takes 30 sheets, it really is essential for any but the most occasional user.

You can run the machine from the external transformer which comes with the printer, or from the (optional) rechargeable battery pack which fits internally. Battery life is good for about 40 sheets after a 10-hour charge.There are five push-buttons on the front to control paper positioning, print quality, and size. Some have two sets of functions, so it can be confusing finding out which set is operative – a few more indicator lamps would help here.The printer has two basic emulation modes: Canon Bubblejet (BJ) and Epson LQ, and with the former you can select either Canon or IBM compatibility. The printer works well in either mode, but there are significant differences – especially when you come to print graphics. You make print mode changes and various other settings with DIP switches inside the machine. Unfortunately, the manual, like most, fails to explain properly the use of DIP switches.

The two print qualities, High Quality and Economy, are produced at the same rate, but the second uses less ink. Both give good-looking and legible print. There are four built-in typefaces, but you can't use all of these at the same time. If set to BJ mode you get Courier and Prestige, while in Epson mode you get the more attractive Roman and Sanserif faces (the latter are functional faces, like the one used on these pages). BJ mode allows two unusual features: printing in reverse (white characters on black), and printing onto a shaded background; but for reasons best known to Canon you can't print in italics. In Epson mode you can print outlined or shadowed characters and italics.

The print quality is excellent. To the naked eye it looks almost professional, and it's only with a magnifying glass that you can see that character outlines are a little irregular. Graphics printing and DTP output in Epson mode are disappointing; here, BJ mode is distinctly superior in speed and quality.

This is an amazing little machine, especially when you remember that a couple of years ago a dot matrix printer with much inferior print would have cost about the same.

VERDICT

'The first of its kind and still not surpassed'

DESIGN	95%
CONSTRUCTION	78%
EASE OF USE	77%
PRINT QUALITY	80%
SPEED	61%
FLEXIBILITY	64%
INSTRUCTIONS	65%
VALUE FOR MONEY	92%

OVERALL 75%



Excellent quality graphics mode printer from the BJ10ex. While it's good enough for small-scale DTP work, it's too slow for major productions.

Canon BJ1C
Roman char
Sans serif
Draft mode
Italics, t
Outlined

The Canon BJ10ex produces good quality Courier and Sanserif typefaces, undistinguished proportional Roman. Adequate for letters, probably not enough variety for longer reports.

SMALL PRINT

PRICE: (RRP ex VAT): £345
INK CARTRIDGE (700,000 CHARS):£17.99
RECHARGEABLE BATTERY PACK: £39.99
SHEET FEEDER (30 SHEETS): £54
TEL: 081 773 3173

AMERICAN FOOTBALL COACH

on the Amiga (1 Meg only)

"AMERICAN FOOTBALL COACH is a good game.. It's certainly worth a look as the game play is superior to many full-blown simulations. I'll end by saying that it's extremely tough to have a winning season because the AI (artificial intelligence) definately plays hardball. Are you tough enough ? "
REVIEW...STRATEGY PLUS ISSUE 16....FEB 1992.

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NEW *** DIVISION ONE 92 REVISION ONE *** NEW



DIVISION ONE 92 REV 1

"(The Midnight Oil) treat soccer in the sophisticated way Americans treat their national games." -The Guardian

THE GAME Everyone has their own ideas on what makes a soccer team "tick". Here is the opportunity to put into practice your own ideas. Operating from the English 1st division you must build a squad to challenge for the league title, the FA and League Cups and the 3 European trophies. And as players age, rebuild the team while holding off relegation.

SQUADS/TRANSFER MARKET In a 3 squad system (1st team squad, reserve squad and youth squad), use the continuous intake of youth players and training program to create a squad whose skills reflect your ideas. Supplement these skills with carefully selected transfer market acquisitions. As they age, veterans fade and youngsters develop, keep an eye on the changing skills of your team

SKILLS All players have a balance of 5 skills (no "skill levels") which you must develop by experimenting with your team. Even more important will be your judgement about the effect of the particular team balance or skill combination on the outcome of the match, and subsequently a season of football. Suitable training can develop/enhance skills.

MATCH/STATS Your judgement will be put to the test in this unique 4 minute match/stats simulation against accurately simulated opposition. This is the measure of your team and your most reliable source of information. There are displays of: match flow, two teams, player-with-the-ball, injuries, discipline, substitutions, in-match tactics, goal scorers, possession breakdown and performance assessment.

REVISION ONE
The best just got better! All updates that have been made to Division One 92 over the last six months. In addition the match screen has improved, opposition team info expanded, a European transfer market added and a few more minor changes. An edit program and a customisation program have also been added. The manual has been expanded and the packaging improved.

EDIT PROGRAM. Edit the team and players that make up Division One. Produce **your own** Division One, or Scottish League, British League, European League, German/Spanish/French/Italian...etc...etc. Or even make up a league of all the best teams you've ever seen.

CUSTOMISATION PROGRAM Customise the 45 man starting squad. Use your own favourite players, or your local side. How about as squad with Pele, Beckenbauer, Best, Cruyff, Maradonna ....?

WHAT IS DIFFERENT ABOUT THIS GAME?
Division One 92 transforms the soccer management game. You can concentrate on the football. Experiment with players, formations, team styles. Build your dream squad and check it out in accurately simulated league/cup football. Match results are from a unique soccer match. Every pass, tackle, shot etc. is determined by the players involved. Your choice of skills thus influences match results. Mental arithmetic has been dumped. Football knowledge is the name of the game.



HEAD COACH V3

"When it comes to the 4th down Headcoach has it"."Headcoach", "TV Sports Football" head to head. (Pop Comp.)

Headcoach V3 has been described as "the best game ever put onto a computer". It is the complete American Football game, a multi season epic with the very best strategic elements of the real thing. You will call the plays, devise the gameplans and develop the team.

Use the first season (2 pre-season games, 16 regular season games, and the play-offs) to discover your 45 man squad of players. Then exploit the college draft to improve the team and expand your game play to beat the very best the NFL can throw at you.

Players will age and teams will fade (a player will last about 6 seasons), but you will stay and rebuild ....

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Atari ST	❒	❒
	£19.95	£19.95

Current owners: replacement disk £1.50

hubble bubble



Brother HJ100i

Can a younger brother outperform its elder?

This is essentially the same machine as the BJ10ex. Whether you buy this or the Canon really depends on your preference for cream (Brother) or battleship-grey (Canon) plastic. The switches on the control panel are also slightly different.

Its printer emulations are the same, although the Bubblejet mode here is called HJ100i mode. The internal typefaces have been changed, and the Brother's Roman typeface is more pleasant than the rather blocky Canon version. The Brother also allows a small print size which gives a maximum of 160 characters across an A4 page as against the Canon's 136 (useful for spreadsheets).

As you might expect, overall print quality and speed are exactly the same as the BJ10's. The manual is obviously based on Canon's but is differently arranged and easier to read.

Brother H
Roman cha
Sans seri
Draft mod
Italics,
Outlined
Shadowed

The Brother HJ100i's Courier and Sanserif faces are identical to the BJ10ex; the Roman is better formed, though still rather cramped.



The HJ100i's graphics are excellent and are indistinguishable from the BJ10ex.

VERDICT

'Get this printer or the Canon – it's really a matter of taste'

DESIGN	85%
CONSTRUCTION	86%
EASE OF USE	85%
PRINT QUALITY	88%
SPEED	60%
FLEXIBILITY	61%
INSTRUCTIONS	59%
VALUE FOR MONEY	93%
OVERALL	**75%**

SMALL PRINT

PRICE (RRP ex VAT): £345
INK CARTRIDGE (700,000 CHARACTERS): £17.99
RECHARGEABLE BATTERY PACK: £39.99
SHEET FEEDER (30 SHEETS): £54
CARRYING CASE: £39.95
TEL: 071 387 5060

hubble bubble



Star SJ48
Roman cha
Helvetica
Draft mod
Italics,
Outlined

The Star SJ48 offers only two typefaces. Roman and Sanserif are very similar to the BJ100i's.



The SJ48's graphics and DTP print-outs are disappointing compared to the other two Canon-type machines, they were slow, with clogged-up grey tones.

Star SJ48

The Kings of the dot matrix enter the Bubblejet arena...

All printers may well have been created equal, with the SJ48 being yet another re-working of the BJ10 theme, but Star has given the SJ48 a slightly different control panel and a paler shade of grey. The machine was the only one supplied with a sheet feeder, which also worked well on the Canon and Brother. The feeder is easy to fit and remove and has a slot in the back so that you can still print envelopes while it's in place – this doesn't exactly make it the Aston Martin Lagonda of Bubblejets, but it's well worth the £54 optional extra tag.

Something that will ruffle your hair, though, is the odd decision on Star's part not to give the SJ48 a Canon Bubblejet mode: instead it just uses Epson LQ or IBM emulations. This is fine when printing text, but the Epson 24 pin graphics printing is slow and the results aren't as good as the BJ mode on the other machines.

The Star's manual is comprehensible though – which will come as a relief to anyone buying a printer for the first time who wants to just plug it in and get going.

SMALL PRINT

PRICE (RRP ex VAT): £345
INK CARTRIDGE (700,000 CHARACTERS): £17.95
RECHARGEABLE BATTERY PACK: £39
SHEETFEEDER (30 SHEETS): £54
TEL: 0494 471111

VERDICT

Let down by poor graphics printing, otherwise excellent'

DESIGN	80%
CONSTRUCTION	82%
EASE OF USE	81%
PRINT QUALITY	84%
SPEED	61%
FLEXIBILITY	56%
INSTRUCTIONS	78%
VALUE FOR MONEY	92%
OVERALL	**70%**

hubble bubble



Olivetti JP150

An alternative look can be deceptive...

Quite a different machine from the others in this group. If you sawed the print trays and control panel off an HP DeskJet you would end up with the JP150 – a slightly over-sized grey shoe box based on the HP print engine.

The top of the box opens up and extends to form a paper rest. The front flaps down to make a rather inadequate shelf for loading single sheets which you poke in through a slot. As with the Canon BJ300 there's only a single paper guide here so it's fairly easy to put the paper in crooked.

The machine seems very underpowered in terms of bells, whistles and flashing lights with only a power switch and three control buttons. But just wait until you look inside. There, in a row across the machine, are 33 (count 'em) selectors – all much bigger and easier to use than other printers' DIP switches which they replace. My initial reaction was one of horror, but on second thoughts this arrangement actually makes the printer simpler to use than most. There is a fashion to have lots of buttons and flashing lights on printers nowadays (as on hi-fi systems), but many of them are unnecessary, and may just confuse the user.

The JP150 has three typefaces, Courier, Times Nordic, and Letter Gothic (Sanserif) which are handsome examples of their kind. The Courier can be used in either portrait or landscape orientation, but only at one size (12 point), the other two can be printed at 6 or 12 points.

There is one slot which accepts cards for extra fonts, memory, or added emulations. Another more essential extra is a cut sheet feeder which holds 70 sheets and fits under the machine – unfortunately several urgent calls to Italy didn't get one for us to test.

The Olivetti's HP emulation makes it work with any Amiga application that has a DeskJet or LaserJet printer driver. In its best quality printing mode it's slightly slower than the other three in our budget group, but has a useful draft mode which is much faster. When printing from First Word there was a 30 second delay before anything happened. This did not occur with Protext, so it must be a printer driver problem.

Easy to use, despite the clumsy single sheet feeding arrangements, this printer is very compact and quiet. Don't be put off by its rather dull external appearance.

VERDICT

'Definitely the best of the budget printers we tested'

DESIGN	84%
CONSTRUCTION	89%
EASE OF USE	82%
PRINT QUALITY	80%
SPEED	79%
FLEXIBILITY	82%
INSTRUCTIONS	83%
VALUE FOR MONEY	95%
OVERALL	**80%**

SMALL PRINT

PRICE (RRP ex VAT): £339
INK CARTRIDGE (700,000 CHARACTERS): £14.50
RECHARGEABLE BATTERY PACK: £69
SHEET FEEDER (30 SHEETS): £90
FONT CARDS: £61.90
128/256k RAM CARD: £TBA
TEL: 081 785 6666

Olivetti J
Courier
Times Roma
Letter Gothi
Draft mode
Italic, **bo**

The Olivetti JP150 offers the best typefaces in this price range. A large range of extra font cards makes it pretty versatile, but at over a minute a page it's still a bit slow for the office.



The JP150's graphics are of very good quality, but it's too slow for serious DTP work.

GROUP SUMMARY

None of these four are heavy-duty printers, nor are they fast: they're excellent for letters and so on, but not really designed for long print runs or lengthy documents. You will find print quality good enough for small volume DTP work.

Canon recommends a work rate of 100 pages a month, and the ominous sounding MTBF (mean time before mechanical failure) is reckoned to be 6,000 pages – this would apply to the Brother and Star too. Olivettis give an MTBF of 10,000 pages. By comparison, a laser printer at five times the price is designed to cope with 16,000 pages a month!

All three Canon-type machines are very compact and portable, cheap and good value for money. The differences between the Canon and Brother are very minor: the former looks more handsome, the latter has a better Roman font. The Star is disappointing, slower and not-so-good at graphics printing; even having a manual that I could understand doesn't make up for those deficiencies.

The Olivetti shoebox is also small enough to be moved around (or put away) easily, but, without a battery option, can't be considered a truly portable printer. Single sheet feeding is not as easy as with the others – it really needs its sheet feeder. It has the best internal typefaces, a landscape printing option, you can expand its internal memory, and add more fonts. Although graphics printing is at 300, rather than 360, dpi the quality is as good as from the others, although output is slower.

hubble bubble

Comparison Table:

At the end of the day how do the ten bubblejets compare?

Printer	Canon BJ10ex	Brother HJ100i	Star SJ48	Olivetti
Size in cm (h,w,d)	4.75, 31, 21.6	4.75, 31, 21.6	4.75, 31, 21.6	11.5, 34.2, 14.7
Weight (kg)	1.8	1.8	1.8	2.9
Resolution	360dpi	360dpi	360dpi	300dpi
Memory	37K	37K	37K	8K
Emulation 1	EP, I, C	EP, I, C	EP, I	HP, EPX*, I*
Typefaces	4	4	4	3
Paper Feed2	SS, SF*	SS, SF*	SS, SF*	SS, SF*
Interface3	P	P	P	P
Memory Cards	N/A	N/A	N/A	128/256K
Font Cards	N/A	N/A	N/A	15
Speed (CPS)4	83	83	83	80/160
A4 Text Page	1'23"	1'21"	1'22"	1'06" /44"
DTP Page	3'35"	3'15"	7'47"	4'09"
Graphic	1'04"	1'05"	1'14"	1'03"

* Optional extra

1 HP=Hewlett-Packard DeskJet/LaserJet, EP=Epson LQ, EPX=Epson FX, I=IBM Proprinter, C=Canon Bubblejet

2 SS=single sheets, SF=sheet feeder, TR=tractor

3 P(arallel), S(erial), L(ocaltalk)

4 Manufacturers' rating

How does a Bubblejet work?

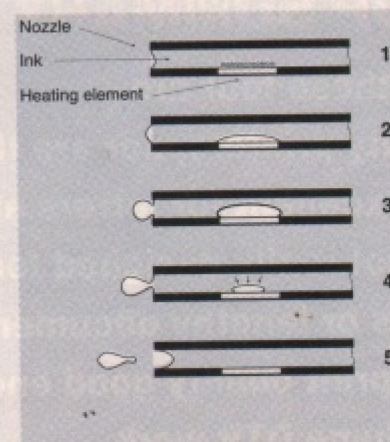
Bubblejet and dot matrix printers (DMP's) both produce copy as a series of very small dots on the page. A DMP does this by firing needles from the printer head at the paper through a ribbon, the Bubblejet by spitting out minute ink droplets...

The story goes that a scientist in Canon's labs in the early 70s touched a hypodermic needle with a soldering iron and noticed that ink splattered out of the needle. 15 years later, this led to the first thermal Bubblejet printers.

The print head has a vertical row of up to 64 nozzles, each finer than a human hair, fed from an ink reservoir. In the wall of each nozzle is a resistor which heats up to 300-400°C when a pulse of electricity is sent to it. The ink vaporises (1) to form small bubbles, which merge into a larger one (2,3), and set up a pressure wave that forces a blob of ink out of the end of the nozzle (3,4,5). The vapour bubble contracts as it cools and more ink is sucked from the reservoir into the nozzle. This cycle can repeat itself about 4,000 times a second with no moving parts to slow things up. Compared to older Bubblejet printers, this 'thermal Bubblejet' technique (called 'Bubblejet' by Canon) is faster and much more precise. Most machines have a single unit which contains both the ink reservoir and print head, so both get replaced at the same time.

Bubblejet manufacturers used to make claims such as "Laser printer quality at dot matrix price". I haven't seen that written for a while, which is probably because it's not true. The print quality of these machines is very good indeed, but not as fine or sharp as on a decent laser. The print resolution (number of dots per inch) may be the same or higher than on most laser printers, but the dot size is larger and the edges of characters or lines are slightly rougher.

Inkjets used to need special paper. They don't these days, although it's still worth experimenting with different weights and surfaces.



Blowing Bubbles. . . How A Bubblejet Works

PUBLIC DOMAIN

PDSCENE

Steve Keen takes another exhaustive look at the latest PD releases and sorts the wheat from the chaff. If it isn't reviewed here, then it's not worth buying. . .

COLOURS

demo

Devils' latest fractal animation runs at the incredible speed of 50 pictures for every two frames of movement. It really is an impressive sight, especially with the swirly kaleidoscopic/psychedelic colours they've used. The demo is not just confined to swirly pictures though, as it also incorporates rainbow-coloured landscapes, built up stage-by-stage running down the screen. The result is a futuristic alien world that's quite breathtaking in its beauty. Original, entertaining and pleasing to the eye. Fractal freaks will flip.

Disk no: Colours Available from: Mr Micro, 30 Townhead, Kirkentilloch, G66 INL Price: £1.25 (including P&P)Tel: 041 777 6300

88%



LEMMINGOIDS

arcade game

Lemmingoids is the result of a splicing between two of the most popular computer games in history: *Lemmings* and *Asteroids*. The more traditional spacecraft associated with the old black and white arcade classic has been replaced by an umbrella and the gigantic rocks by huge Lemmings that explode into smaller versions every time you shoot them until they disappear in a puff of smoke. All the humorous speech and sound samples have been retained from the original *Lemmings* puzzler and the game includes a one or two-player option. The biggest bonus is the ability to load in different sprites when you get bored of the green-haired imps. There are eight to choose from, including Friday The 13th horror sprites and computers, and, just like their rodent counterparts, the additional graphics also break down into smaller versions. Rather than stay the same, though, the computers break up into power-packs, mice, monitors and leads whilst Jason's ski mask incorporates axes, chain-saws, knives and eyeballs. Unfortunately, it's 1 Mb only, but anyone who has the memory is advised to part with their cash pronto.

Disk No: Lemmingoids Available from: G. E. Robin, 46 Weller Drive, Camberley, Surrey, GU15 2YA. Price: £1.25 (including P&P)

87%



THE BOUNCER

music demo

Crack sampling team, Cybordine, have made a strange choice for their latest track. Their computer disk version of Kicks Like A Mule musical debut 'The Bouncer' fails to set the silicon world alight. To give them credit, they have made some attempt at remixing the original ditty and come up with an adequate version of a mind numbingly dire song. Still, we take encouragement from the fact that nightclub bouncers are finally being portrayed in their true light at last. Sorry Cybordine, but your song's not on the play-list!

Disk no: 1717 Available from:17 Bit 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

50%

MICHAEL JACKSON MEGA MIX

music demo



H.I.T.S Music Demo 12. A strange name for a strange disk subject, namely Michael Jackson. This is a three-disk mix of some of Michael's most famous songs. Some of the tracks squeezed into the code include 'Smooth Criminal', 'Thriller' and 'Black and White'. All the samples were produced by Andy Gibson and are fairly clear, but each song only passes through the left channel. However, an extra disk drive is mandatory if you're to hear the whole track uninterrupted. Not bad if you're a fan of Wacko Jacko.

Disk no: MD12 Available from: H.I.T.S. 19 Hilton Terrace, Whitlawburn, Cambusands, Glasgow, G72 8PD Price: £1 (including P&P) Tel: 041 641 2601

76%

WHAT IS PUBLIC DOMAIN?

Welcome to the Public Domain where there's a wealth of free software available for your Amiga – often as good as, if not better than, a lot of full-price commercial programs. For the price of a disk and a little money to cover such things as postage and packing, you can take your pick from a stack of great games, utilities, demos, animations and applications.

The origins of Public Domain go back to the early days of computing when groups of enthusiasts would get together and create original programs of their own. These they would distribute freely between friends to garner recognition for their coding skills. Nowadays, the PD scene has grown into a thriving industry with countless PD libraries serving an ever-growing number of enthusiasts. Standards are rising all the time. PD Scene is here to make your purchasing decisions that much easier as we individually rate all the best new releases as well as provide details of the full cost of each disk (including postage and packing) and the address of where to send your cheques/postal orders. Don't just sit there, start writing those cheques now!

QUADRIX

puzzle game



Yet more *AMOS* games this month and we kick of with one of the best. *Quadrix* is an excellent example of what's capable with the games' creating tool. The object of the game is to empty a square playing field of various blocks by pairing them with like cubes that come into the arena via gaps in the four walls. Bricks that are not coupled gather together in the centre to form a big block which can be manouvered and scrolled around with the joystick in order to make the pairing easier. You have five lives which deplete as the time runs out. Every time you complete a level, the group of blocks in the middle change their formation adding to the frustration. The presentation and in-game graphics are based around an Egyptian theme and the blocks represent some form of hieroglyphic or elemental sign.



Quadrix is a highly professional and entertaining affair that'll instantly appeal to puzzle freaks. As far as we are aware this is Geoffrey Sparks, an Australian programmer's first game. And if this is anything to judge his future gaming creations by there's going to be a lot more to come. Alexey Pajhitnov watch your back!

Disk no:1732 Available from:17 Bit 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

88%

animation of THE MONTH







AMY VS WALKER 2

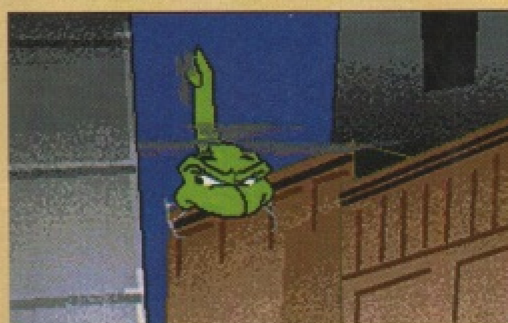
animation

Eric Schwartz is recognised as one of the definitive Amiga cartoon animators. In this month's free animation supplement we guide you through his best animation to date, *A Day at the Beach*. But for now, just to whet your appetites, here's another example of his current work. *AVW 2* is the sequel to the popular 1990 flick, *Amy vs. Walker*. In the first demo Amy simply chased a miniature Walker, from the film The Empire Strikes Back, around an Amiga. It was short, but a significant example of what Eric can do. This latest opus is very different and is more film-like. The luckless Amy is sent diving for cover as a huge metallic monster's foot comes crashing down right next to her. In a fit of anger she manages to staple one of the beast's feet to the ground. The Walker tries to move and tumbles over, but doesn't give up the fight. It emits one last laser barrage before Amy scurries for cover.

Disk no:1684A&B Available from: 17 Bit 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

92%





DIGITAL DISCO 2

music demo

Yet more musical madness from our crazy whacked out Finnish friends. *Digital Disco 2* by D.J. Joge doesn't break down any barriers in terms of originality, but the tunes are aimed at a more relaxed form of enthusiast. The Fins still haven't overcome the language barrier and insist on forcing you to read their inane Finglish before you can play any music, which is a pity, as by the time you've waded through the gobbledygook, you're too worked up to listen to the Richard Claydermanesque tracks.

Disk no: 2400 & 2401 Available from: PDSoft, 1 Bryant Avenue, Southend-On-Sea, Essex SS1 2YD Price: £2.50 (including P&P) Tel:0702 46693



73%

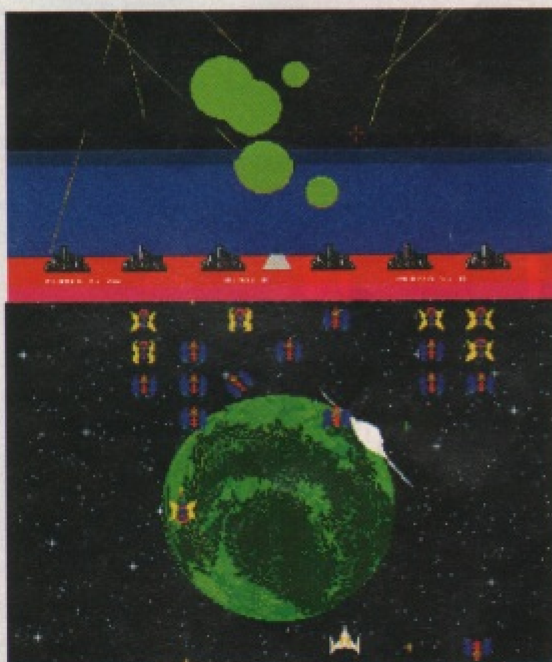
DRAGONLORD

arcade game

Dragonlord have put together a brilliant collection of seven of the greatest games to have graced the home computer world. None are spectacularly polished as the emphasis has been firmly placed upon game-play. The seven games include are *Galaxians, Asteroids, Missile Command, Galaga, Slime Line, Bally/Zolyx* and, of course, the timeless *Space Invaders*. If you've always meant to get an oldies compilation, get this one. Relive the memories and wade in the nostalgia of classic video game heaven.

Disk no:1724 Available from:17 Bit 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

89%



RAVE HARD

music demo

Miga Master return to the hip computer music scene with a sample aptly entitled *Rave Hard*, because that's exactly what their disk does. The tune will appeal to those of you with a limited understanding of chord and note structure and matching IQs. If you're turned on by this monotonous drivel you deserve this disk, but it did nothing for me. The sample was put together by John Hodgson and is not the best example of his work. A far better rendition of 'musak' can be found on his other disk *No Screechin' Woman*. Repetitive music persists, but it is rescued from mediocrity by some weird and wonderful sampled speech that will keep the eyelids open.

Disk no: Rave Hard Available from: NBS 132 Gunville Road, Newport, Isle of Wight, PO30 5LH Price: £1.75 (including P&P) Tel: 0983 529594

68%

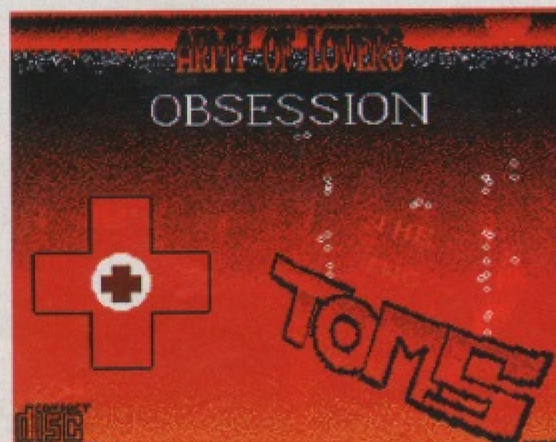
IT'S A FINE DAY

music demo

Those overworked brothers-in-arms, The Two Toms, have two new sampled disks out this month. As excellent as ever, their first is a cover of Opus III's 'It's a Fine Day', with an appropriately dreamy scene for you to peruse whilst the sonics wash over you. However, the real star is their version of the Army Of Lovers 'Obsession' track. Even if you hate the group's camp exploits you can't fail to be impressed by the Toms' quality. There's no one in the music sampling world who comes close.

Disk no: 1725A+B (It's a Fine...), 1726A,B&C (Obsession) Available from: 17 Bit 1st Floor Offices, Wakefield, WF1 1XX Price: £1.50 per disk (including P&P) Tel: 0924 366982

88%





PD SOFT'S WIN YOUR OW

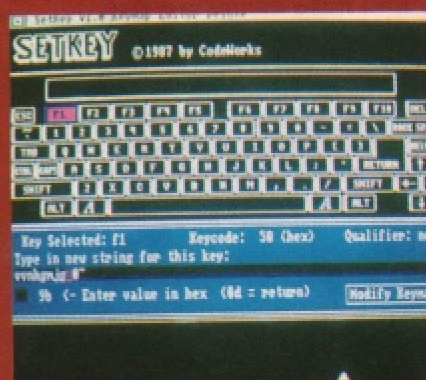
1,000 DISKS UP FOR GRABS!

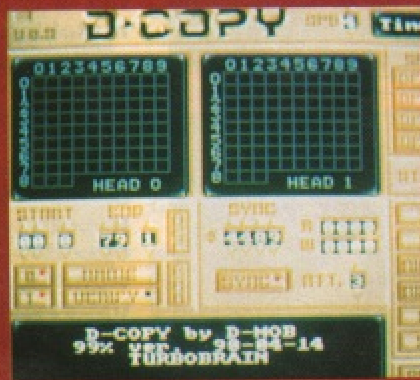
That's right, CU Amiga has linked up with the UK's premier Public Domain library, PD Soft, to offer a sensational prize of 1,000 PD disks covering the very best games, music, animation, utilities and megademos taken from their extensive back catalogue.

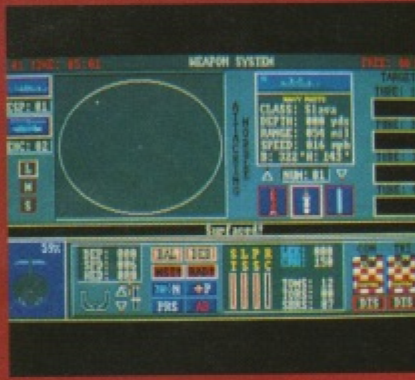
Included in the package will be most of the demos by Tobias Richter and Eric Schwartz as well as a selection of the best megademos from Europe's top groups, including releases from the likes of the Crusaders, Silents, Darkness, Budbrain, Red Sector and many, many more. Plus, there'll be all the very latest PD virus killers, some fantastic graphic utilities, all the best music demos and productivity software and a huge selection of all the best games.

How can you win such a mountain of first-class software? Easy. Collect the coupon at the bottom of the next page and answer the PD-related questions on this spread. Put everything in a safe place, wait 30 days, buy the next issue of CU Amiga, and answer the next batch of questions and cut out the second and final coupon. We'll tell you where to send everything next issue.





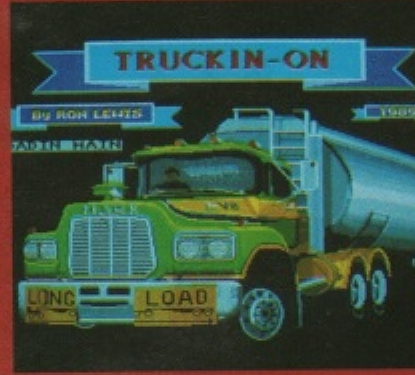








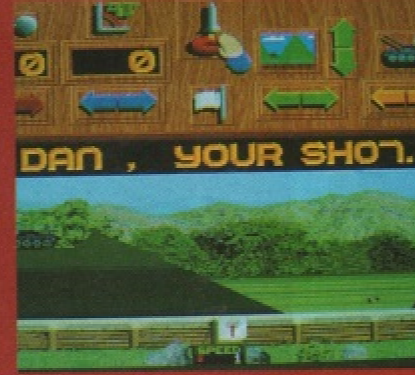


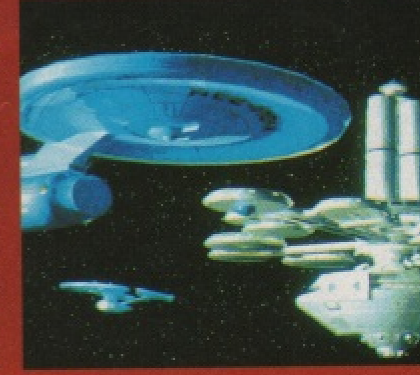












N PD LIBRARY





RULES
1. Competition not open to EMAP or PD SOFT employees
2. Editor's decision is final and no correspondence will be entered into
3. If the prize offered is not available, we reserve the right to substitute a prize of similar worth
4. This is a two-part competition and one coupon from both the MAY and JUNE issue of CU Amiga are necessary to enter

QUESTIONS

Please answer the following multiple choice questions and keep your answers safe until next month's selection.

1. Eric Schwartz, famous for his Anti-Lemmings Demo and assorted animations, lives in which country?

A. England.
B. Denmark.
C. USA.

2. What is PD software?

A. Free software, placed in the Public Domain, with the copyright remaining with the original author.

B. I've no idea, but let me win the competition anyway because I'm such an imbecile.

C. Incredibly expensive software that no one in their right mind would buy.

Easy, eh? Keep your coupon and answers safe until next month, when you'll be able to enter our great 1,000 disk giveaway.

WINNER TAKES ALL

There's only one prize on offer, but what a prize it is. 1,000 disks drawn directly from PD Soft's library are yours for the taking! No namby-pamby runners-up prizes, just the chance to win an extra special first prize. Go for it!

THE SOFT OPTION

One of the largest PD Houses in the UK, PD Soft offer an unrivalled service which covers the entire spectrum of Public Domain, including all the latest utilities, games, megademos, Fred Fish disks, Schwartz animations, *AMOS* collection, as well as an extensive collection of budget-priced games. For further information, write to PD Soft at: 1 Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD (enclosing an SAE) or seek out their ad in this issue of CU AMIGA.

CU AMIGA/PD SOFT

COUPON NUMBER ONE

Please cut out and keep this coupon until next month when we'll be printing the second part of this competition.

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Postage and Packing	50p
Complete Catalogue Disk	99p

Prices per disk! 2D = 2 disks etc
Not Amiga Plus! MB = Megabyte

ADDWARE

- AA.01 Airmania; Prize game, win a round the world Air Trip!

GAMES

- AG.01 Star Trek; Classic! (3D-MB)
- AG.03 Star Trek; (Agatron); (2D-MB)
- AG.05 Pacman 87; Multi level classic!
- AG.07* Board & Card games; Cluedo etc
- AG.10 Space Invaders; Arcade Clasasic
- AG.14 Flascheiber; Boulderdash style
- AG.16 Castle Of Dome; Graphic Adv.
- AG.18 Golden Fleece; Infocom quality
- AG.24 Drip + China Challenge, Frogger
- AG.27 Star Trek (USA); Great! (2D-MB)
- AG.29 Chess + Tiles, Tetriz Two, etc
- AG.30 Twintris; Better than Tetris!
- AG.31 Simpsons; Shoot-em-up style
- AG.32 Legotris; another Tetris game
- AG.34 Tile Game; Sliding block puzzle
- AG.36 Wizzys Quest; Arcade puzzling
- AG.37 Rings of Zon; Ultima style
- AG.38 Star Trek; The Arcade game
- AG.40* Metagalactic Llamas; Classic!
- AG.42 Games Galore; Star Trek Trivia, Pharoahs Curse, Monopoly, Mazeman....
- AG.43* Gridrunner + Rebound, Invaders
- AG.44* Sorry + Missile, Blackjack etc
- AG.45* Seven Tiles; Speedball style
- AG.46 Megaball; Arkanoid style
- AG.48 Diplomacy; war strategy game
- AG.49* Eat Mine; Emerald Mine Copy
- AG.51* Frantic Freddy; Platform game
- AG.52 Block It; Superb Puzzle game!
- AG.53 Nakamoto; Great Platform game
- AG.54* Downhill Shiing; Classic game
- AG.55 Amos Defence; Great Shoot-em-up
- AG.56 Assassins Games 11; Invaders, Girl Action, Missile Command etc
- AG.57* Battleforce; Fantasy Action
- AG.58 Balloonacy; Great Bomber Clone
- AG.59 Squamble; Scramble version
- AG.60 Asteroids; Arcade Classic!
- AG.61 3 Player Tetris; Triple The Fun
- AG.62 Patience & Dominoes; As titled
- AG.63* Jetman; Spectrum Jetpac copy!
- AG.64* Assaains 1; Rollerpede, Tanx, Caverunner, Amigoids, Avatris
- AG.65* Skate Tribe; Skateboarding fun
- AG.66 Super Twintris; MEGA Tetris!
- AG.67 Assassins 4; Jumper, Klondike,Go-Moku, Jumpy, Turbo Duel, Cracker
- AG.68* Assassins 4; Go Loony, Raid and Retalitor. Great SEUCK games!
- AG.69 Marble Slide; Pipe Panic style
- AG.70 Columns; Tetris / Klax variation
- AG.71 Rapheal; Game for Turtles fans
- AG.72 Air Warrior; Flight Simulator!
- AG.73* Battle Pong; Updated Pong game
- AG.74* Monopoly; English game version!
- AG.75 Wastelands; Great 3D adventure
- AG.76* Ladybug; Pacman variations
- AG.77 Cardsharp; Klondike, Castle, King Albert, Calculation, Demon...
- AG.78 Survivor; Excellent Role play
- AG.79* LLamatron; Jeff Minter Classic
- AG.80* Atic Atac; Spcetrum game copy
- AG.81* Cubulus; Superb Puzzle game
- AG.82 Shapes; Original puzzle game
- AG.83 21 Games; Includes; Missile Command, Space Invaders, Cosmoroids, Bally 111, Egyptian Run, Backgammon
- AG.84 Mission X; Great shoot-em-up
- AG.85 Zeus; Great puzzle game
- AG.86* Pom Pom Gunner; Shoot aircraft
- AG.87* Snakes & Ladders; plus Reversi

UTILITIES

- AU.01 Jazzbench; Workbench upgrade
- AU.02 UEdit; Excellent file editor
- AU.03* QL Emulator; + data disks (3D)
- AU.11 Starchart; Gives positions & movements of all major constellations
- AU.13 Visicalc; Superb Spreadsheet
- AU.15* Dope Intro maker; Create Demos!
- AU.17 D Copy; Excellent disk copier
- AU.18 North C; Complete C Language
- AU.19* SID; Workbench replacement
- AU.21 Avoiding CLI; useful utilities
- AU.22 Text Plus; Word Processor (v2.2)
- AU.23 Word Wright; Word Processor Plus: Amiga spell; Checker!
- AU.24* Spectrum Emulator; Run some Spectrum games on your Amiga
- AU.26 Complete C Manual; 11 chapters plus 70 executable examples! (3 disks)
- AU.27 Amibase; Professional Database!
- AU.31 Ghostwriter; Demo Maker (MB)
- AU.32* Label designer; Design & Print
- AU.33 Nib; Powerful Disk copier!
- AU.35 Quickbase; Easy to use Database
- AU.36 Rainbow Writer; Demo Maker
- AU.37 mCAD; Professional CAD package
- AU.38 Ultimate Icon Disk; Great Icon creator, nice and easy to use!
- AU.40* Red Sector Demo Maker; Powerful program for creation of Demos (MB)
- AU.41* Mandlebrot Generator; Superb!!!
- AU.42* Rippers; Music / Graphic Rippers
- AU.46 Home Utilities; Wordwright SCalc (Spreadsheet), Label Print...
- AU.49 Ripped Fonts & Logos; Character sets extracted from various demos!
- AU.50 Picturesque; Great Art package
- AU.51 Business Letters; 600 plus to adapt & use in your Word Processor!
- AU.52* C64 Emulator; Latest version, Hardware available seperately!
- AU.53* Speedbench; Load in 15 seconds
- AU.54 Printer Drivers; 30 different
- AU.55 Bible; King James version (4D)
- AU.56 Fox DTP; Desktp Publisher!
- AU.57 Budget Finance; Personal use
- AU.58 Messy SID; PC to Amiga files
- AU.59 Typing Tutor; Master those keys
- AU.60* Opti Utilities; Virus Killers, PD Copy 3, Flixdisk, Text Engine...
- AU.61 Spectrapaint 3; Paint program
- AU.62* Tarot; Astrological Horoscopes
- AU.63 Land Builder; Vista style
- AU.64 Punt Prediction; Win on Horses!
- AU.65 Mandlebrot Adventure Kit; Great
- AU.66 Business Card Maker; As titled
- AU.67 Disk Print; Disk Label printer
- AU.68 Spactrum Adventures;Need AU.24
- AU.69 Printer drivers 2; + Utilities
- AU.70 A-Gene; Geneology made easy..
- AU.71 Graphics Construction Kit; Fontmaster, Pointer animate, Graphic Rippers, Boot Creators, Anim studio, sMovie, Text paint, PPanim etc..
- AU.72+ Amiga Plus Utilities; Various
- AU.73 Text Engine; Word Processor...
- AU.74 Print Studio; Printer Utility
- AU.75 Unicopy; Disk copying program
- AU.76* Anti Virus (3.14); Virus expert Virus Checker, Zero Virus 3, Boot X, Master Virus Killer..
- AU.77* Amicash; Bank account utility
- AU.78 Forms Really Unlimited; Design & Print any size or style form

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- AH.03 Chaos, D Master; Maps, Hints..
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FONTS

- AF.01 Cosmopolitan; Rangers, Peigenet, Avant Guard, Aldous, Celtic etc..
- AF.02 Fancy; Hollywood, Park Avenue, Broadway, Camelot, Courier, Ham..
- AF.03 Publishers; Helvetica, Akashi, Andover, Bookman, Boxie, Times...
- AF.04 Various; Unusual, Videofonts, Large & Small fonts...Utilities

DEMOS

- AD.01 Walker 1; Classic animation (MB)
- AD.02 Walker 2; Classic animation (MB)
- AD.04 Probe Sequence; Award winner!
- AD.18 Puggs In Space; Funny cartoon
- AD.21 Busy Bee; Sculpt 3D anim. (MB)
- AD.23 Ship and Sphere; Ray Trace. (MB)
- AD.24 NewTek Demo; Incredible (MB-2D)
- AD.25 The Run; Lotus car chase! (MB)
- AD.39 Agatron animations; 3D film of USS Enterprise attacking USS Reliant.
- AD.44 Laurel and Hardy; Films (2D)
- AD.45 Star Trek, Dry Dock Demo; The highly praised Ray Trace masterpiece.
- AD.46 Stealthy Manoevre 11; Cartoon.
- AD.50 Budbrain Demo 2; A Classic!
- AD.54 Simpsons; Digitized; Do The Bartman plus great Bart slideshow!
- AD.58 Applecus; Ray Traced (MB)
- AD.59 Plasmutex 91; Truly Amazing!
- AD.61 Franklin Fly; Very Amusing (MB)
- AD.62 Dating Game; by Eric Shwartz, very amusing animations (3MB-2D)
- AD.63 Batman, Terminal & Late Night; Three great Eric Shwartz anims (MB).
- AD.64 Shuttlecock; E. Swartz (MB)
- AD.65 Stealthy Animatioins; 3 Great Eric Shwartz animations. (MB)
- AD.66 Substance by Quartex; Fractals, 3D anims, Ray Trace Bubbles..
- AD.70 Global Trash by Silents; Ray Traced Space Ship, Plazma effects..
- AD.71 Ice Megademo by Silents; (*)
- AD.72 Simpsons; Best Bart one yet!
- AD.73 Sickness Simulator; Rude noises.
- AD.74 WWF Wrestlemania; Hulk Hogan, Ultimate Warrior, Hitman & many more.
- AD.77 Digital Innovation; 30 minutes!
- AD.78 Fillet the Fish; Great cartoon.
- AD.80 Light Animations; MEGA! (3MB-2D)
- AD.83 Anti Lemmin Demo; Supreb! (2D)
- AD.85 Mars Flight; Excellent! (MB)
- AD.88 Alpha Omega; Stunning animated RAy Traced Fractuals! GET THIS! (MB)
- AD.90* Hardwired; STUNNING! (2D)
- AD.91* Ten Megademos; Superb demos.
- AD.92 Operation Vark; Funny story.
- AD.94 Pixelled Pleasure; 15 minutes!
- AD.96* 4-stroke; Engine simulation
- AD.97* Total Remix; Arnie Film mix.
- AD.98 Vangelis Demo; Animated graphix
- AD.99* Alcatraz Mega Demo; Great! (3D)
- AD.100* Odyssey; Epic sci-fi story (5D)
- AD.101* Up Front; Music and graphix.
- AD.102* Total Destruction; Original.
- AD.103* Dragons; Best Bob animation!
- AD.104* Demons Mega Demo; Great one.
- AD.105 At the Movies; E. Shwartz animation features Amy Squirrel. (2MB)
- AD.106 Tin Toy; Great animation. (MB)
- AD.107 CDTV Attack; Excellent! (2D)
- AD.108 Gulf War Conflict; Another brillent E. Shwartz animation. (2MB)
- AD.109 Day at the Beach; E. Shwartz follow up to dating game. (2D-3MB)
- AD.110 Amy v Walker; E. Shwartz excels himself again! (2D-3MB)
- AD.111 Amy at Movies 2; Another great E. Shwartz follow up. (4D-MB)

CLIP ART

- AC.01 Deluxe Paint; Quality pictures.
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- AC.12 Colour; Occasions, Transport, Signs, Electrical, Architecture..
- AC.13 Fruit, Vegetalbes, Kitchen...
- AC.14 Women, Men, Boys, Girls, Babies
- AC.15 Cartoons, Anatomy, People...
- AC.16 Alphabets; 52 different!
- AC.17 Arrows, Borders, Stars, Humour.
- AC.18 Seasonal, Occasions etc..
- AC.19 Business, Cars,Sport, Trade..
- AC.20 Art Deco, Headings, Herbs..
- AC.21* Exile Fonts; Lots of alphabets.

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- SND.01* Soundtracker; Music creation.
- SND.02* Soundtracker; alternative version + instruments disk. (2 disks)
- SND.05* Soundtracker 8 Tracker; Superb!
- SND.06* Noisetracker; Enchanced version
- SND.07* Soundtracker Rippers; + Tunes!

- STI.01 to STI.08 Digital Soundtracker samples! 8 Disks with 100's of files! (Buy One or all 8 for 7.99)

- STS.01 Soundtracker Samples
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- AE.05* World Data, 3D Plot etc. (11+)
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- AE.08 Kids Paint; Art Program. (5+)
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LPD

- 01 Colouring Book; Fun for kids.
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- 10 Word Factory; Educational.
- 17 Dogfight 2; Good Arcade game. (MB)
- 18 Touchstones; Board game. (MB)
- 20 Wordy; Word processor! Good!
- 21 Quingo; Great Trivia quiz (MB)
- 27 Flower Power; Great game! (MB)
- 29 Big Top Fun; Educational fun. (MB)
- 30 Shymer; Kids Adventure game. (MB)
- 35 T-Tecdraw; Good CAD package. (MB)
- 36 Fracgen 11; Fractal designer.
- 37 Rocket Maths; Fun with Sums! (MB)
- 39 Magic Forest 2; Platform. (MB)
- 41 Rescue; Virtual Reality 3D. (MB)
- 42 X-Stitch; Knitting / Crochet. (MB)
- 44 Formula 1 Challenge; Racing. (MB)
- 45 Music Box; Music writing. (MB)
- 46 Magpies Clip Art 1. 300+ pictures!
- 47 Dirty Cash; Fruit Machine. (MB)
- 49 Marvin Martian; Maze game. (MB)
- 50 Magpies Clip Art 2; Lots of pics.
- 52 LC24/200 Fonts; printer utility.
- 53 Magpies Clip Art 3; Lots of pics.
- 54 Magpies Clip Art 4; Lots of pics.
- 55 Spritex; Excellent Sprite Editor.
- 59 Prehistoric Fun Pack; Fun School type games collection...(MB)
- 60 Techno Snail; Original Arcade fun.
- 61 Final Chapter; Orginal 3D game.
- 62 Revolution; Great platform game.
- 64 Rescue 2; Another great 3D game.
- 67 Cyadonia; Devious puzzling. (MB)
- 68 Virus Blaster 2.1; Virus killer!
- 69 Magi cal Mix Up; Jigsaw Fun.
- 70 Paintbox; Painting for kids. (MB)
- 71 Battlecars; Racing / Battling. (MB)
- 72 Monster Island; Strategy. (MB)
- 73 Amos Database; Graphic d'base.
- 75 Video Lab; Video utility. (MB)
- 76 T-Tecmaze; Maze Puzzle game. (MB)
- 77 Powerbase; Good Database. (MB)
- 78 Spectra + Cheatlister; Puzzle. (MB)
- 79 Music Engine; Easy to use. (MB)
- 80 I.B.E.; Ican Bank Editor.
- 81 Pools Pro; Win a Million...
- 82 Colouring Book 2; Great fun. (MB)
- 83 Picture Hangman; Classic fun. (MB)
- 84 Guess Who; Original puzzle. (MB)
- 85 Magic Wassocks; Arcade action. (MB)
- 86 N Command; W'Bench 2 style (AMOS)

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(nn is numaber of disks. eg LPD.01)

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GARFIELD

slideshow

Own up! Who still buys the Daily Express just to read the Garfield strip? If you're one of the many fans of the cuddly feline with the razor-sharp claws, then you could do worse than pick up a copy of this new Garfield-based disk. There's a huge collection of hand-drawn Garfields in Hi-Res mode, with 22 separate screens depicting over 40 different renditions of the orange 'orror. The drawings are in black and white and almost identical in style to the Jim Davis originals, suggesting that they are most definitely copied from his comic book strips. If you're a fan, like me, you won't want to miss this excellent disk. Personalities cannot be bought, but they can be drawn!

Disk no: 1723 Available from:17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

81%



AGATRON SLIDESHOW

slideshow

There are two things that get the CU PD office hacks excited. One is the arrival of a new Eric Schwartz demo and the other is loading up the latest offering from PD giant, Tobias Richter. The German maestro has come up with yet another impressive slideshow of upcoming animations, this time featuring graphic screens based on the Star Wars trilogy of films. There are more than 12 ray-traced pictures of the various models used in the movies with appropriate starscaped backgrounds. The collection is presented with Mr Richter's usual quality and is split into three sections: The Empire, The Alliance and Action. All the memorable space craft are represented ranging from the Alliance's X-Wings to the Empire's Tie-Fighters. There are no fillers here and although the pictures are static they are so dynamic that they seem to thrust off the screen. Every pixel looks as though it has been lifted from a film still and even though Tobias covers the craft in extreme detail he always leaves us wanting more. Fantastic stuff.

Disk no: S019 Available from: Prodisc PD, 81 Middleton Hall, Kings Norton, Birmingham, B30 1AG Price: £1.25 (including P&P) Tel: 021 458 2404

89%

game of THE MONTH

ASSASSINS VOLUME 20

arcade game

Hiding amongst a small collection of average PD games, there's a monstrous arcade shoot 'em up to be found. *Microbes* is a mixture of puzzle and blasting as you pilot a space craft that races around the circumference of a large circle blasting microscopic amoeba that are constantly splitting and creeping towards the edge. The alien spawn multiply everytime you hit them with your laser and creep from the centre of the circle until they escape from the line of fire and deplete your shields. It's a great PD game and rivals *Llamatron* for best shoot 'em.

Disk no: 1749 Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH Price: £1.50 (including P&P) Tel: 0924 366982

91%



CRAZY SUE

platform game

Yet another hybrid game sneaks onto the PD circuit. At first glance *Crazy Sue* looks like a cross between *Mario* and *Rainbow Islands*. A small girl sets out from her house armed only with a lollipop intent on overthrowing an evil wizard's rule. On her journey, it's necessary to travel through the monster-infested forest before getting to the Sage's castle on the other side of the wood. The detail provided throughout would not look out of place in a commercial game release. Sue waddles along like a toddler with her golden pony-tail flopping in the wind behind her and, when touched, her sprite transforms into an angel to float up to heaven. The monsters are not characterless either. They pulsate and undulate in an atmospheric manner whilst others speed onto the screen in whirling dervish Tasmanian Devil fashion, suddenly freezing to reveal their true identities. Each level necessitates locating a key to proceed and contains multiple points, coins and pick-ups. The game is only let down by the terrible tune, but you really can't afford to miss this great game.

Disk no: 2172 Available from: Virus Free PD, 23 Elborough Street, Swindon, SN2 2LS Price: £2.00 (including P&P) Tel: 0793 512321

87%



PD TOP TEN

A-Animation S-Sound U-Utility G-Game M-Miscellaneous

1. Amy at the Movies II A
2. Amy vs Walker II A
3. Smash Telly! G
4. A Day at the Beach A
5. Lemmingoids G
6. Crazy Sue G
7. Shamen Remix S
8. Colours M
9. Quadrix G
10. Dragonlord G

Compiled by CU Amiga

PETER'S QUEST

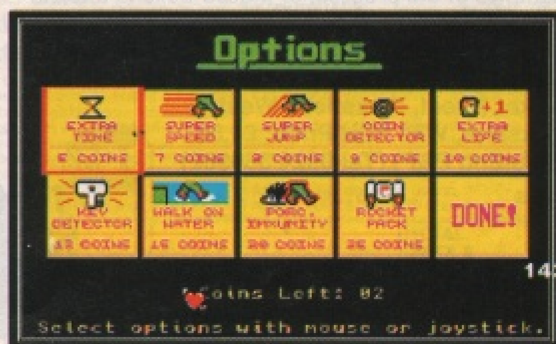
platform game

In the early days, games magazines got more enquiries concerning *Mario*'s conversion from the Nintendo to the Amiga than anything else. Although that'll almost definitely never happen (except for the upcoming educational software from Mindscape) there are still plenty of games out there that come close. *Peter's Quest* is one such game and although the game-play differs significantly it certainly look the business. Background scenery, blocks and animals included in the world could all have been lifted from the console adventures. Even the main sprite, Peter, wears identikit overalls to those of the Italian plumber. However, this is where the similarities end, as most of the hero's functions are not nearly as fluid or comprehensive. Peter must retrieve as many hearts and coins from 'Mario Land' as possible so that he can rescue his girlfriend at the end of the 20-level world.The coins can be found inside certain blocks, but instead of being released by a quick bonk with the head, they must be located by crouching down and searching manually. Collected coins can buy certain goodies from an end-of-level menu. These range in price and usefulnes, and some of the gifts available include jet packs, extra lives and super jumps. Although lacking the superb quality of the *Mario* series of games, this is great value for money and tremendous fun. If a little more attention had been paid to the main sprite's manouverability and collision detection this could have been the best PD game for years. All is not lost, though, as there have been at least four revisions of the game already and hopefully the American programmer, David Meny, will go back and iron out these problems and come up with a true classic.

Disk no: 2396 Available from: PDSoft, 1 Bryant Avenue, Southend-On-Sea, Essex SS1 2YD Price: £2.50 (including P&P) Tel: 0702 466933

80%







TORNADO

art

It's strange, probably boring, but very true. Although we receive slideshows including every form of transport known to man, I can't recall having seen one that featured fighter aircraft. The pictures aren't brilliant, but possess a certain atmosphere and attraction for those who like to study all things military. For anyone who has thought of flying off into the wild blue yonder, or just finds planes interesting, this could be a worthwhile disk to checkout. However, if you're the type who thinks plane fans run a close second to train spotters in the 'in need of psychiatric help and 40,000 volts up the bum, get a life' department, the disk will be worthless.

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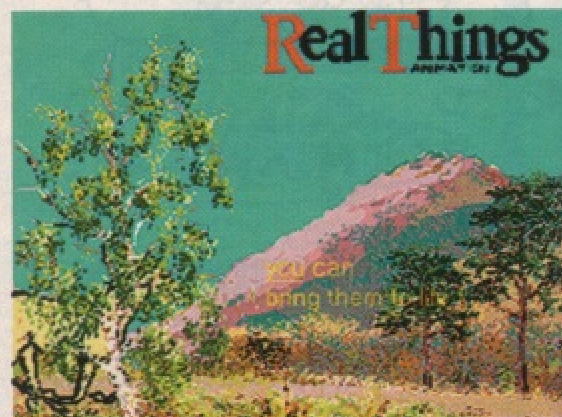
REAL THINGS

animation

Real Things is a collection of disks providing pre-drawn animations of professional quality. They include animals, people and objects expressly for use in demos and any other application you care to put together and see fit to exploit the software with. Here we have a few examples of the kind of thing you can expect to find on the full-priced product. A few horses gallop and trot through forestry and pools of water. Pretty accomplished stuff all things considered and the beasts are very lifelike. However, they only last a couple of seconds before they loop. Unless you're going to make use of the software by bringing them into your own demos there's not much point in owning this, or indeed the commercial package either.

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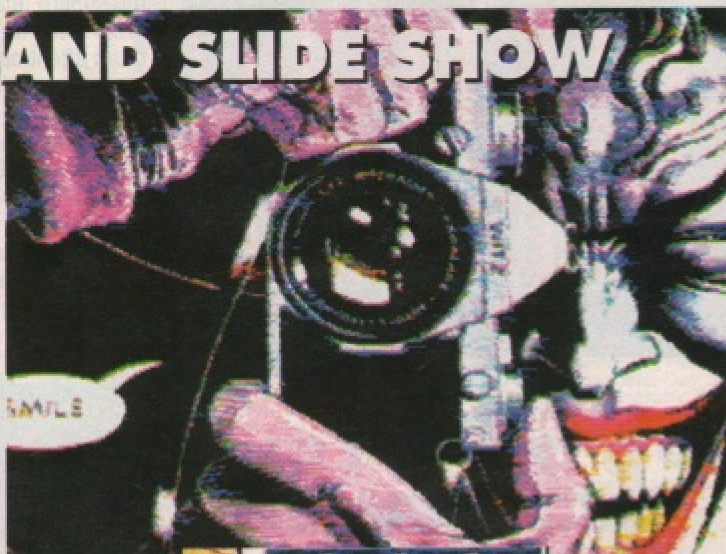
BRIAN BOLLAND SLIDE SHOW

slideshow

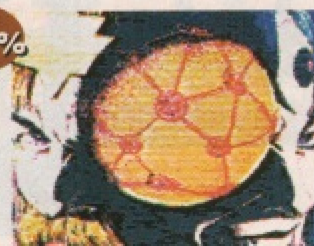
It's been a long time coming, but at last someone's seen the sense in putting together a collection of pictures by Brian Bolland. Brian's work is well known to comic book fans who've followed his career from early works as Fantasy Unlimited, Britain's first comic fan magazine. However, his first contact with fame came when he joined the 2000 AD team to draw the manic, futuristic cop, Judge Dread. He's now so popular that he rarely has time to scribble a complete strip and fills his time drawing covers from such diverse podiums as album covers and Time Out magaize. Most will have seen his classic cover for the Batman/Joker comic book novel, The Killing Joke, and is included on the disk. All the pictures are digitised and although they are not particularly fine examples of the process, or indeed Bolland's work, they warrant more attention than many other comic slideshows I could mention.

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VIKING SAGA

demo

It's the 'Strangest Demo Of The Month' award time, and this is about as strange as they get. *Viking Saga* concerns, not surprisingly, an early segment of history from the nomadic warrior tribe, and tells of how they came to rest on our shores. With a mixture of animation and text, the quality of the demo wavers between the highly effective and the extremely inadequate. However, it's presented with a certain Celtic charm and, although short, won't disgrace anyone's collection.



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+2242 HARDCORE MUSIC
-2247-8 HIS MASTERS NOISE. Bloody brill.
-2260 TAITAN MUSIC. Good stuff.
-2265 NUMERIC MUSIC.
+2266 RAMJAM MUSIC.
-2267 TECHNO TRANCE. Rave on dude.
+2268 SONIC BOOM. Lovely.
-2270 LEMMING CURD. Weird.
+2278 SHADOW MUSIC. Great music.
+2283 TECHNO MUSIC 2 Rave on
+2337 S.A.S RIPS 1. Music modules
+2367 PRINCE ALPHABET ST MIX
+2369 BOMB THE BASS MEGA-BLAST REMI
+2383-4 DIGITAL DISCO 2. Bloody Brilliant
+2366 ALIEN BREED MUSIC MIX. The best
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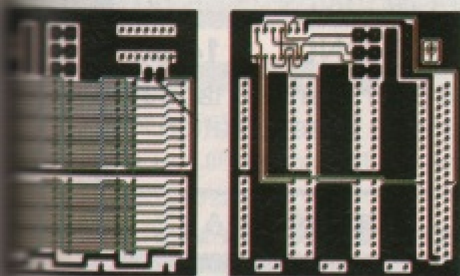
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SHERLOCK

DOCUMENT ANALYSER

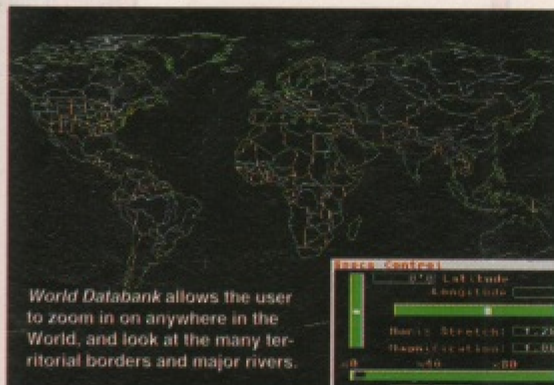
Like its legendary namesake, *Sherlock* is going to become renowned for its deductive powers. Simply by giving the package two documents to examine, it can determine whether they were written by the same person, faster than Holmes could say 'Elementary'. The way the program works is to use a given document for comparison and for the user to feed other 'mystery' documents into the machine. After this has been done, the machine will creak and groan for a few seconds, before churning away for a while comparing letters within the two documents. After a while, it will produce a number – the 'Difference Index' – and the the lower this is, the more likely it is that the mystery document was written by the same author.



Sherlock is very elementary to use, and its success rate at comparing different copy is surprisingly good.

It works by splitting the documents into pairs of letters, and comparing how often certain pairings are repeated. As most of us have an individual style and grammar when writing, letter pairs occur at different frequencies in our work, and it's this individuality that enables *Sherlock* to come up with accurate results.

The larger the text file, the more accurate the results, and to increase the accuracy further, disputed documents can be compared against a number of control files. Michael Cox, *Sherlock*'s programmer, says that the process is even more accurate when performed using letter triplicates, but the required text file would have to be so large that it would be impractical. As it is, he suggests text files of at least 10K be used to produce meaningful results. *Sherlock* runs from CLI, and uses a single command with two arguments which represent the names of the control and disputed files. Using it to process two documents totalling roughly 80K took a little under five minutes, at the end of which I was presented with a three-digit number.



World Databank allows the user to zoom in on anywhere in the World, and look at the many territorial borders and major rivers.

On running several examples of my work as the control documents comparing them to other peoples' work resulted in numbers in the mid-200s. However, comparisons of my stuff generated number s averaging 150 – so it seems that the program works!

Unless you're planning to be a secret agent, this program doesn't have much practical use, but it's certainly interesting to fool around with! Incidentally, also on the same disk is *World Databank*, a map-drawing utility which will draw you a map of anywhere in the world, at any magnification, complete with national borders and major rivers. Simply enter the required longtitude, latitude, and zoom factor, and it'll do the rest automatically. Unfortunately, you cannot print out the results, and the amount of detail doesn't increase with the magnification, but it's an interesting program nevertheless.

FACT BOX

DISK ID: **EDUCATION 5**
PRICE: **1-9 Disks at 1.25 each. 10+ Disks 99p each. Postage free.**
AVAILABLE FROM: **Diskovery, 108 The Avenue, Clayton, Bradford, BD14 6SJ.**
TELEPHONE : **0274 880066.**

80%

MOG

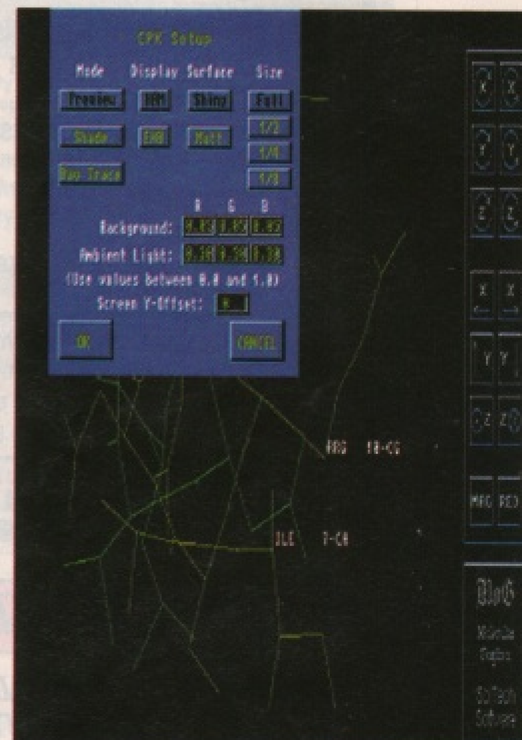
MOLECULAR CREATION AND DRAWING PACKAGE

Imagine the scene: a tacky B-Movie spaceship is under attack from a weird rubber monster. As the green-painted Marigold rubber glove pushes through the craft's doors, the rugged Captain rushes to his computer screen and calls up a series of pictures featuring molecules on them – voila! – invasion over. Thus, if you're having problems with rubber nasties, then banish them away with *MOG* – the *Molecular Graphics Generator* which can display those all-important graphics .

Tacky scenarios aside it can also generate representations of real molecules.

Over the past hundred years, Scientists have come to realise that creating a visual representation of complex molecules and can greatly aid their understanding of the interaction between its different elements. At first, these molecules were created by joining plastic balls together with sticks, but the advent of powerful graphic workstations meant that computer-generated versions could be easily created – and are much easier to manipulate than their plastic counterparts.

MOG allows the creation of protein and organic molecules, and provides the would-be Space Commander with a number of basic building blocks to do so. In 'create' mode, molecules are shown as convoluted wire-frame structures, the vertices of which represent the binding amino acids. By clicking on a vertex you can find out the specific amino acid used at that point. Bonds can also be created or broken, tp create new molecules.



MOG's Molecules can be manipulated within the 3D space. In addition, it can also create a basic undertanding of how they work.

Once a molecule has been defined, it can be freely rotated across any plane, or altered in size. If you're happy with its aspect, you can then create a ray-traced or simple representation, which can be saved as an IFF screen. Unfortunately, as this is just a preview version, the rendering options have been disabled.

For most people, this will do nothing more than



Molecular modelling can be an art form in itself, as these excellent ray-traced examples show.

create pretty pictures, and allow them to fool around with molecules that they don' t understand. For students studying Biology or Chemistry at A-level or higher, it's an ingenious tool which will aid comprehension of their chosen subjects. It's easy to use, but for the ray-tracing option, a maths processor or accelerator is recommended.

For anyone studying Chemistry or Biology at A-level of higher, *MOG* will prove essential for illustrating essays and studies.

FACT BOX
DISK ID: F599
PRICE: 1.00 per disk. P&P 50p per 10 disks or part thereof.
AVAILABLE FROM: PD City, 119 Ballards Walk, Basildon, Essex.
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70%

ICON MANIA

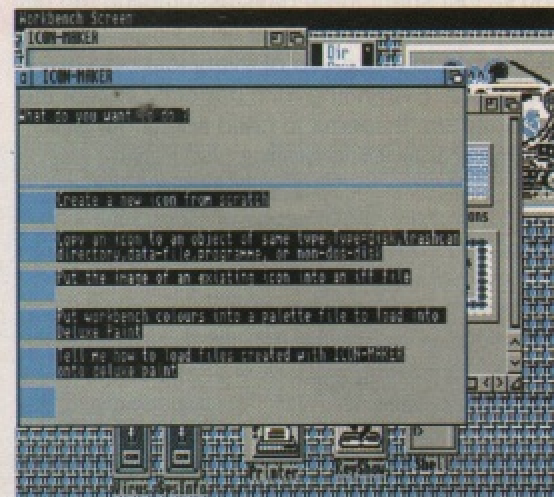
ICON CREATION PACKAGES

To many people, icons are nothing more than the small pictures they double-click on to load a game or utility. To the rest of us, however, they can be things of beauty (or at least interest), and are worthy of more attention than they get.

As anyone who has used it can tell you, Workbench's icon editor is extremely primitive. Luckily, though, a number of alternatives are supplied on this disk, all of which are guaranteed to make icon creation a more enjoyable process.

The most useful program on the disk is called *Icon Maker*, and it allows the creation of an icon from any *DPaint* brush – or vice versa – although it's in the former capacity that it's most useful.

Before drawing an icon, a reference palette using the desired Workbench colours must be saved. This is then loaded into *DPaint* in medium resolution, thereby setting the working colours. Once you've drawn an image, it's then saved as a brush, which is loaded back into *Icon Maker*. It also offers the chance to specify the type and name of the icon that's to be created before performing the necessary conversion.



Icon Maker's facility to convert *DPaint* brushes into icons is great for enhancing the appearance and professionalism of programs.

For those who can't be bothered to create their own icons, dozens of ready-made ones are also supplied. They cover all icon styles, and include many of the most popular images, including disks and brushes – in fact, it's one of the most complete icon collections yet to appear. *Iconiser*, another program on the disk, is useful in an entirely different way, as it creates icons for programs which don't have any. When dealing with individual files, this may not seem particularly useful, but it really comes into its own when applied to the entire contents of a directory or disk.

Iconiser is simplicity itself to use: click once on the Iconiser icon, and twice on that of the directory or disk to be Iconised. The program will scan the selected directory, and sub-directories, and add icons to any files that don't have one. This is extremely useful as it permits operations (such as copying, deleting, etc), on files without having to resort to CLI or Shell.

Iconiser is also accompanied by a complementary program called *De-Iconiser* which has the opposite effect of the master program.

FACT BOX
DISK ID: ICON MANIA
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85%

PRINT UTILITIES

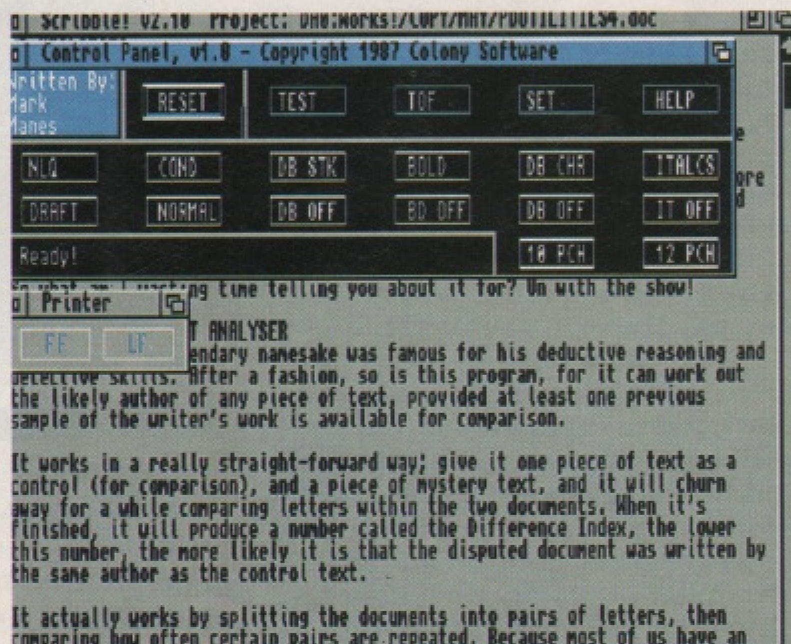
HANDY PRINTER TOOLS

Despite their widespread use, printers probably cause Amiga owners more problems than any other hardware. At first, they seem deceptively simple, but getting them to configure to your Amiga can be a real headache. This disk attempts to remedy some of the most often-encountered gripes.

The first requirement before any printing, is a compatible printer driver. If you own a mainstream printer, this is no problem, but if you own one of the more obscure Hewlett Packard or Canon machines, you'll find it difficult to trace a suitable driver. Included on this disk are drivers for the HP Deskjet Plus, the Deskjet C and the Canon PJ1080, which should stop your pics looking like Picasso on acid as they print out!

For the traditionalists among you, there's an extra little program called *Typewriter*. At first glance, most people would say 'Why would I want my printer to simulate a typewriter?!', but as the author suggests, there are occasions when it's more useful than a standard printer. When program's running, all of the keyboard functions – Tab, line feed, space, etc – act upon the printer immediately. This is ideal when printing envelopes and other one-off jobs which will need visual positioning of the characters.

For anyone who hates waiting while the printer churns out lengthy text files, *Spooler* is the answer you've been waiting for. It allows the user to set up a RAM or disk cache where print jobs are sent. The program then automatically reads and processes the jobs while you carry on with whatever you're doing. Installation is quite straightforward via the CLI, and involves the copying of a selection of files to your printing disk, along with modifications to both the startup-sequence and the mount-list. The program works adequately, especially when using the RAM disk as a cache, but as it only intercepts text output to PRT, it doesn't actually speed up the printing of graphics or DTP pages – still, you can't have evertything.



Control! and *Printer* are two handy programs for changing your printer's specifications without the need for fiddling with the escape codes of DIP switches.

Finally, there are two complimentary programs called *Control!* and *Printer*. Once activated, these produce small icon-controlled windows which are designed to multi-task with word-processors and text editors. Clicking on the various gadgets, the line and form feeds, pitch changes, print modes and other options can be changed. When you consider how fiddly making small adjustments can be, you'll find this an essential utility – and it will prove especiallyuseful for owners of printers which require these functions to be altered using extremely hard-to-get-at DIP switches. It's certainly become a firm favourite with me...

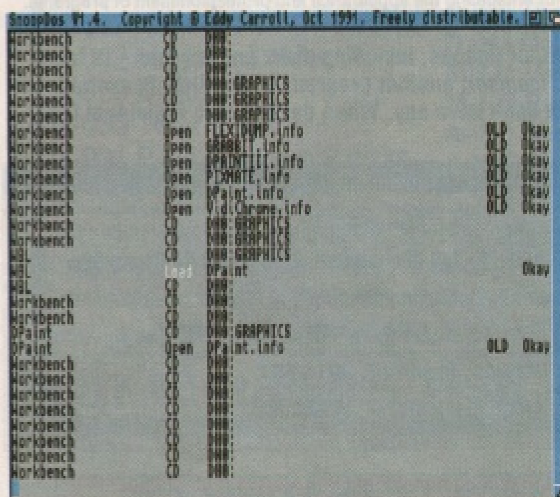
FACT BOX
DISK ID: 1612
PRICE: 89p per disk. P&P 50p for less than 5 disks.
AVAILABLE FROM: 17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire, WF1 1DH.
TELEPHONE : 0924 366982
75%

SNOOPDOS

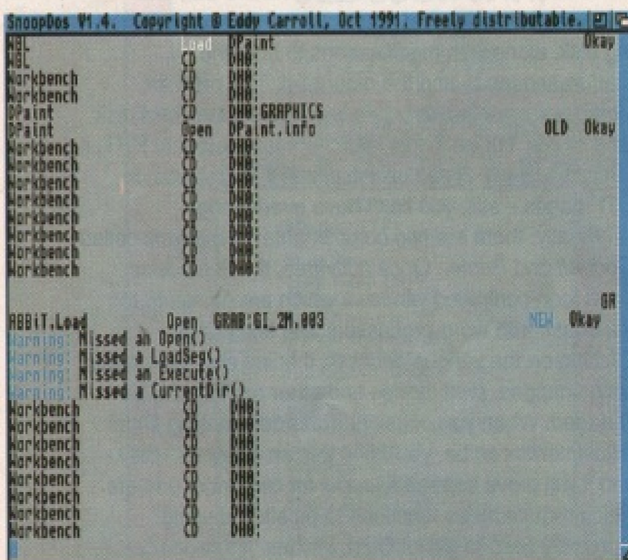
FILE TRACER

You've just spent three days assembling the ultimate collection of programs on a single disk, taking care to make use of every last byte of disk space. Everything runs perfectly except the last program. It seems to need additional files, but which ones? The program isn't giving any clues. Welcome to the disk compiler's nightmare! If you'd owned a copy of *SnoopDOS*, though, you could have checked what files were required before you started...

Many DOS programs, utilities especially, make routine calls upon different parts of the Amiga's Operating System in the course of loading. If these calls are interrupted, perhaps because a file is missing mis-located, the program is likely to fail. *SnoopDOS* is an ingenious program that monitors almost all such calls, and



Here's what *SnoopDOS* produces when loading *DPAint*. All function calls are indicated, making it very easy to trace potential problems. By using a system of continuous info updates, it's a brilliant early warning system.



Disk compilation is an essential technique to master if you are to optimise your floppy space. As a result, *SnoopDOS* is the perfect guide to the insides of your disks.

outputs a constant update of what's happening. By noting these details, you can be fairly sure of including all essential files when you move programs from one disk to another.

The program is run from CLI and has ten optional parameters, to monitor specific types of system call, such as Execute or Open Operations. In its default mode, *SnoopDOS* intercepts all system function calls except the lock command and anything written in BC PL (which it can't handle). Output from the program can be redirected to the printer or a file on disk if a permanent record is required.

This program is suitable for anyone with a moderate grasp of AmigaDOS, and is bound to be worth its weight in gold.

FACT BOX

DISK ID: **SUT174**

PRICE: **80p per disk. P&P 50p for any size order.**

AVAILABLE FROM: **Roberta Smith DTP, 190 Falloden Way, London, NW11 6JE.**

TELEPHONE : **081 455 1626**

90%

D-PAINT FONTS 2 & 3

SCREEN FONTS FOR ART PACKAGES

If you've ever longed for a font which was a bit out of the ordinary, these disks are the best thing you could have hoped for. Each disk contains twenty or more fonts saved as IFF screens which can be loaded into *DPaint* or anything similar. To use them, simply load them into a spare screen, cut them out one letter at a time, and transplant them onto the picture you're currently working on.



Disk two contains a variety of plain, classical fonts which are all varieties of traditional typefaces – Helvetica, Times, Cal culator, Olde English etc. Disk three contains a stunning collection of full-colour fonts which are certain to liven up your screens or scrolling messages. Most of the fonts appear to have been influenced by fantasy artist, Roger Dean, and one or two of them are direct copies of his work. There are some ordinary fonts on this disk, too, but they've been coloured stylishly and are anything but boring. If you want to give your work a professional finishing touch, disk three is an absolute must, whilst the first two are of casual interest only.



***DPAint Fonts Disk 3* gives the user more than twenty fantasy-style fonts – some of which are very similar to that used by Roger Dean. Aimed for use in pictures or in scroll texts, they're weird, large and very guady - but certainly extremely effective! Expect further additions to the series very soon.**

FACT BOX

DISK ID: **D-PAINT FONTS 2 & 3**

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TELEPHONE : **0274 880066.**

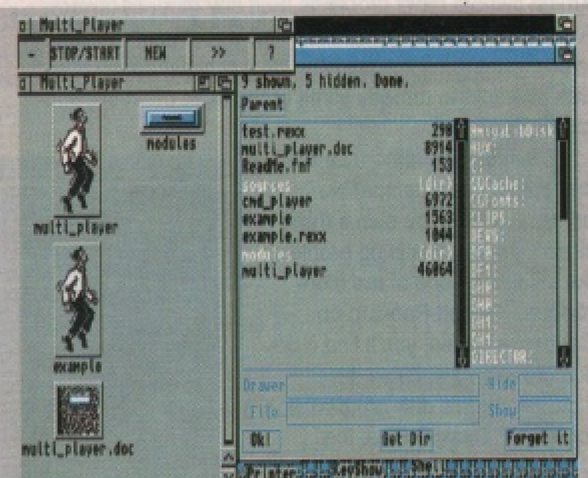
78%

MULTIPLAYER

MUSIC MODULE PLAYER

Music lovers will be interested to hear about the latest module replay routine called Multiplayer. As its name suggests, it can replay modules created by all the major music packages including *MED*, *Soundtracker*, *Future Composer*, *TFMX*, and many others.

It can also handle *Powerpacked* modules, and can be used to create a continuous 'album' replaying numerous modules without the need for user interaction. It's even ARexx compatible! Operated either from CLI or Workbench, it's easily the most powerful player available. Check it out!



***Multiplayer* can play and use modules saved in all major formats. Tou can even link modules to create 'Albums'.**

FACT BOX

DISK ID: **F600**

PRICE: **£1 per disk. P&P is 50p per 10 or less disks.**

AVAILABLE FROM: **PD City, 119 Ballards Walk, Basildon, Essex.**

TELEPHONE : **0268 412645**

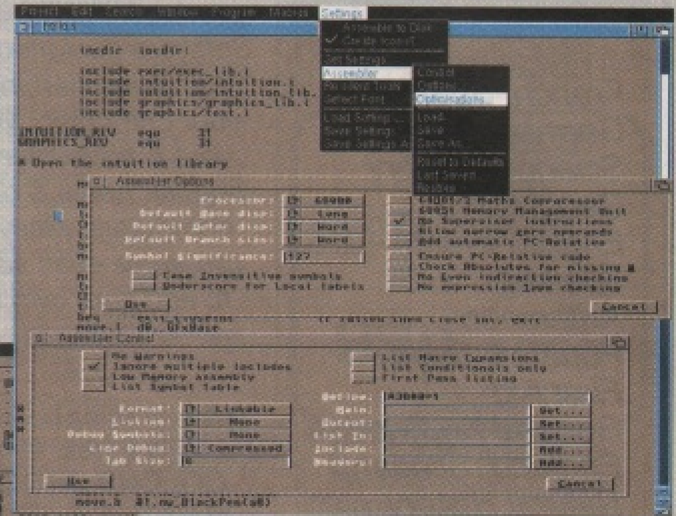
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Some things were worth waiting for ...

Amiga Format Gold 95%

HiSoft Devpac 3

Devpac Version 3 is here at last. The two earlier versions of HiSoft Devpac for the Amiga set a standard in 68000 assembly language programming which was hard to surpass, but we think that we've done it. This new package has had a complete face-lift, from the editor through to the debugger; in fact so many features have been added and improved that we feel confident in the claim that Devpac 3 is the ultimate assembly language development system on the Amiga … for now!



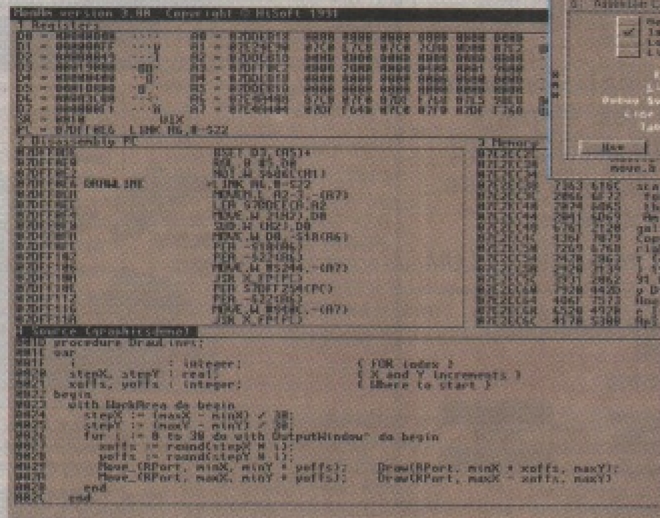
Devpac 3 gives complete control over the assembly process

The Editor

A new multi-window editor with bookmarks, mouse block-marking, macros, complete window flexibility (including multi-views on one file), extensive user configuration and full integration with the other Devpac programs. The editor makes use of Workbench 2 or 1.3 automatically.

The Assembler

Improved and extended, the Devpac 3 assembler is now at least 40% faster than its predecessor (without pre-assembly), supports the full 680x0 range of processors including the maths co-processors and has a tremendous number of switchable optimisations. With the ability to pre-assemble files for inclusion, it can now claim to be the fastest assembler on the Amiga.



the debugger supplied with both packages

The Debugger

Devpac 3 is provided with a versatile debugger/disassembler for bug hunting and ease of learning. You can have as many views on your program as you like, including its source code; then set breakpoints, single-step instructions etc. even at a source code level. Again, there is support for all the new processors and the floating point chips.

Devpac 3 comes complete with all the necessary include files, a linker, many examples and a clear, helpful manual.

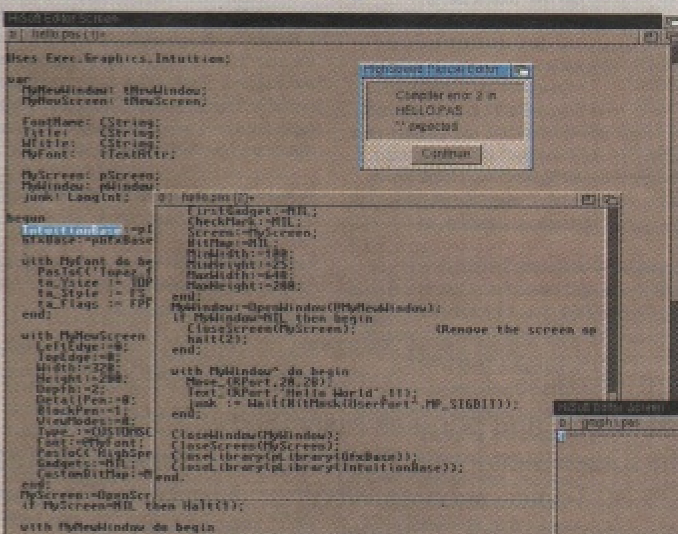
HighSpeed Pascal

At last, a new Pascal compiler for your Amiga; HighSpeed Pascal. Compiling at close to 20 000 lines per minute on a humble A500 and with a fully integrated environment (based on the new HiSoft multi-window editor), HighSpeed Pascal is the answer to your programming prayers.

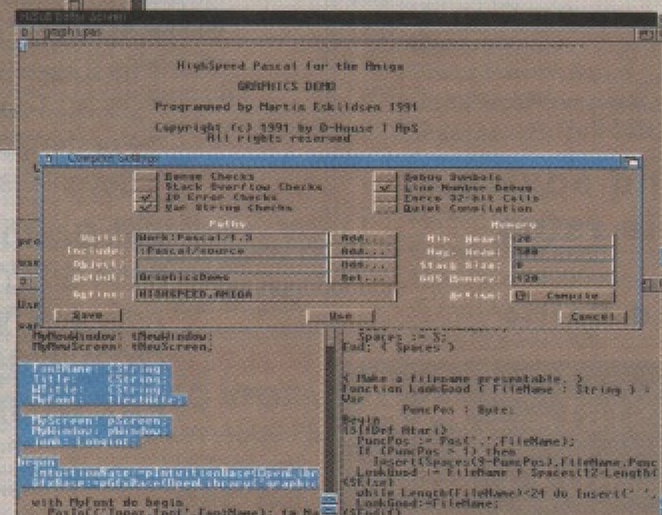
The compiler is very close to the standard set by Turbo Pascal 5 on the PC and enables you to port programs directly from the PC or ST - even the BGI unit is provided for graphic compatibility. You can compile separate units, link with assembler or use the inline assembler provided and we also supply a special version of our 680x0 debugger which allows you to debug Pascal programs at a source code level.

The full Pascal language is supported including such worthy additions as structured constants, flexible string handling and absolute variables.

HighSpeed Pascal comes complete with all the necessary files for working with the Amiga's operating system, a host of examples and 2 professional, wire-bound manuals.



error detection is fully interactive



HighSpeed Pascal is remarkably friendly and easy-to-use

HiSoft Devpac 3 (£69.95) and HighSpeed Pascal (£99.95) should be available at your local computer shop now. If you have difficulty locating a copy, you can order directly from HiSoft by telephone using Access/Mastercard, Visa, UK debit card (Switch etc.) or by post with a cheque/postal order. Mention this magazine when ordering to receive a £10 voucher redeemable against future purchases from HiSoft.

HiSoft Devpac 3 and HighSpeed Pascal are just two of the products that we supply for your Amiga. Other titles include: ProFlight, HiSoft BASIC, Extend, SAS/Lattice C 5 and HiSoft C. For more details contact us at - HiSoft, The Old School, Greenfield, Bedford MK45 5DE UK.

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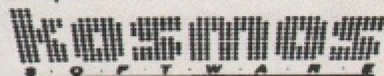


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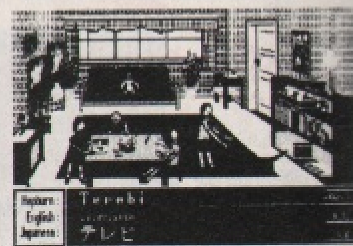
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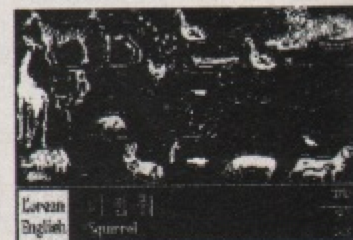
Japanese



English



Korean



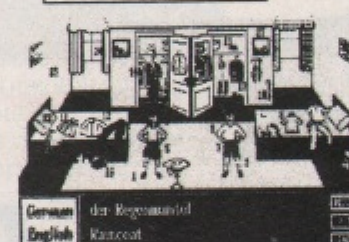
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Testimonials from Audio Gallery Users:

Excellent overall, good vocabulary, good sound quality...Some of the best language products I've used! *Westminster, CA.*

It is really more than just a dictionary. I would have bought this much sooner had I known how in depth it is. As a Foreign Language teacher, I really appreciate it. This is a very high quality product...one of the first computer FL programs to use current FL methods. *Ankeny, IA*

Enclosed is the demo disk I ordered from you several weeks ago. I would now like to order the whole German Disk Set...I am very impressed with the quality of the graphics of this program and am excited about receiving the entire program. *Gainesville, GA*

Wowee! The Spanish Audio Gallery Demo Disk is wonderful. Words can't describe how pleased we were with the sample. What a great great learning tool. Please let us know when you have available Spanish Audio Gallery # 2...Thanks again for such a wonderful product. You have a winner on your hands. *Bartonville, IL*

We searched for a good Spanish program...this is the first - much liked. *Derby, IN*

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Love it - will be used in conjunction with course being taken on compact disk. *Ottawa, Ontario*

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Crazy Joe's

Amiga Public Domain Software

PD GAMES! PD GAMES! PD GAMES! PD GAMES!

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648	STAR TREK (USA) (2) * (NP)	graphic adventure
680	LEARN & PLAY (2)(NP)	maths, words and colouring for kids
727	RICHTER'S STAR TREK (2)(P)	best version to date
766	TREASURE HUNT (NP)	pirate treasure map game for kids
957	PIPELINE (P)	assemble your pipe to keep the oil flowing
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1883	BIONIX II * (P)	never-ending shoot 'em up!
1905	J NICKLAUS COURSES 1	data disk only!
1916	AIR ACE II (P)	excellent WW1 shoot 'em up
1926	NAPOLEONIC WARFARE SYSTEM * (P)	war game umpire
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2013	ZEUS (P)	simple but addictive puzzle game
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2184	TOMCAT	great shoot 'em up!
2185	QUIK & SILVA (*NP)	smashing platform game
2187	SKATE TRIBE (NP)	skateboard frenzy!
2188	CARD SHARP (P)	solitaire collection
2192	STORYLAND 2 (P)	excellent kids adventure
2196	ASSASSINS 14 (NP)	Columns / China Challenge II
2198	21 GAMES	all A500+ compatible!
2204	LEMMINGOIDS	a new twist to Asteroids!
2208	QUADRIX	addictive puzzle game
2209	GOAL-DEN GOALS VOL.1 (*)	for all Kick Off 2 fans!

DEMOS AND ANIMATIONS

No.	Title	Description
747	POPEYE MEETS THE BEACHBOYS (P)	very funny!
825	BUDBRAIN 1 (2)(X)(NP)	great 2 disk demo + naughty bits!
895	A TRIP TO MARS (NP)	demo with a difference
906	MADONNA CARTOON ANIM *(NP)	short digitised animation
935	MADONNA : HANKY PANKY (P)	excellent Madonna sample
1033	AT THE MOVIES ** (NP)	loves of a squirrel?
1229	BUDBRAIN 2 (NP)	good as the first one? you judge!
1238	EVIL DEAD DEMO (X) * (NP)	get them before they get you!
1453	MORE AEROTOONS * (P)	3 Schwartz classics
1540	AMY .VS. WALKER ANIM * (NP)	Eric Schwartz at his best!
1541	BATMAN ANIMATION * (P)	funny Schwartz animation
1552	MAGICIAN ANIMATION 2 * (P)	simply magic!
1560	PHENOMENA ENIGMA * (P)	superb gfx and music
1628	DO THE BART, MAN * (NP)	a must for all Simpsons fans!
1707	DECAY : SIMPSONS DEMO * (P)	should appeal to everyone
1753	LIFE OF BRIAN (2) (P)	sample from the film
1841	ANTI LEMMIN' DEMO (2)(NP) **	for Lemmings fans with 2 meg
1850	THE WALL (6)(2D)(NP) *	mammoth Pink Floyd six disker!
1856	BETTY BOO ANIM / SLIDESHOW (P)	doing the Amiga
1885	ROBOCOP ANIMATION * (P)	digitised from the film
1900	SILENTS : ICE DEMO (NP)	superb music and graphics
1902	VIRTUAL WORLD * (NP)	3D filled vector demo
1943	WINDSURFER ANIMATION (2)(P) *	very good
1947	MR POTATO HEAD (P)*	funny cartoon antics
1948	MR POTATO HEAD CHIPS ARE UP! (P)*	more adventures
1956	CREATURE COMFORTS DEMO (NP)	from the TV adverts
1982	3D PINBALL ANIMATION * (P)	beautiful ray-tracing
2193	4 STROKE ENGINE ANIM (P)	technical animation

USEFUL SOFTWARE

81 UEDIT W/PROCESSOR (NP)
119 AMIGA MCAD (P)
410 DPAINT CARTOON BRUSHES
442 DPAINT FONTS DISKS (4)(P)
458 HAM RADIO UTILITIES (5)(NP)
571 JAZZBENCH (NP)
580 DOPE INTRO MAKER (NP)
591 BUSINESS CARD MAKER (P)
632 MSH (MESSYDOS) (NP)
642 C MANUAL
661 PROGRAMMING DISK 1 (NP)
682 SOUND APPS. (2)(NP)
684 VIDEO APPLICATIONS (2)(P)
901 THE COMMS DISK (NP)
1022 AMOS UPDATE 1.32 (P)
1095 DATABASE WORKSHOP(2)(P)
1097 DPAINT CLIP ART (2)(P)
1099 VIDEO GRAPHICS (4)
1117 GENEAOLOGY * (P)
1228 ST EMULATOR (GERM.)(NP)
1273 C-LIGHT (P)
1450 NEW SUPERKILLERS (P)
1451 ELECTROCAD V1.4 DEMO (P)
1452 AMIBASE (P)
1536 NORTH C (PACKED)
1537 NORTH C (UNPACKED)(2)
1545 SPECTRAPAINT V3.0
1550 FLEXY-BASE V2.0 (P)
1569 LANGUAGE TUTOR (NP)
1606 DATABASE MASTER 2.0 (NP)
1629 SPECTRUM EMULATOR (NP)
1663 DYNAMITE BRUSH FONTS (P)
1858 202 UTILITIES (NP)
1878 TEXTPLUS WORD PROC. (P)
1880 DCOPY & UTILITIES (NP)
1884 EQUINOX INTRO WRITER*(NP)
1886 MED V3.10 (NP)
1893 DICE V2.06A (NP)
1896 DESK BENCH (3) (NP)
1906 PAGESETTER CLIP ART (8)(P)
1914 SLIDESHOW CONSTRUC.(NP)
1951 KING JAMES BIBLE (3)(P)
1954 CELTICS DEMO MAKER(NP)
1987 QUICKBENCH *(NP)
1990 NIGHTFLYERS UTILS. IV(NP)
2004 TURBO IMPLODER V4.0 (P)
2012 DRAW MAP V2.3D (P)
2058 VECTOR BALL EDITOR * (NP)
2168 MESSYSID
2174 ANTI-VIRUS V3.14 (P)
2176 KIDS PAINT (P)
2180 TEXT ENGINE (P)
2181 AMIGA FOX DTP (P)
2182 WINDOWS BENCH (NP)
2186 PERM CHECK (P)
2189 PRINT STUDIO V1.25 (P)
2190 PICTURE CONVERTORS PACK
2195 BBASE 2 (P)
2197 UNICOPY V1.0(P)
2200 LITTLE BENCH (PLUS ONLY)
2201 PC EMULATOR DEMO (P)
2202 TAROT 2 (2) (NP)

MUSIC DISKS

61 J M JARRE - DEFINITIVE (P)
407 CD PLAYER DEMO * (P)
713 FLASHI - QUEEN (2) (P)
724 TECHNOTRONIC REMIX (P)
746 CRUSADERS BACTERIA (P)
941 S/TRACKER JUKEBOX (NP)
976 SCOOPEX BEAST SONIX(NP)
1026 DIGITAL CONCERT VI(NP)
1292 CRUSADERS : GENESIS(NP)
1685 DEPECHE MODE MUSIC (P)
1694 ART OF MED MUSIC DISK
1695 SEAL CRAZY REMIX * (NP)
1713 SPACED OUT VOLUME 1
1714 SPACED OUT VOLUME 2 (P)
1716 I THINK WE'RE ALONE (P)
1717 EVERYBODY DANCE NOW(P)
1718 DOING THE DO(P)
1755 AMAZING TUNES 2 (3) *(NP)
1993 CATS SING KYLIE! (NP)
2006 SAMPLE SENSATIONS * (NP)
2008 MOVE ANY MOUNTAIN * (P)
2059 VIVALDI 4 SEASONS (2) * (P)
2159 CHARLY (P)
2160 WHAT CAN U DO FOR ME?(P)
2199 SHAMEN REMIX (P)

SLIDESHOWS

282 FORGOTTEN REALMS (P)
617 NEIGHBOURS SLIDESHOW
725 DIGGY PIGGIES (2)(NP)
742 MADONNA SLIDESHOW (P)
814 VIZ SLIDESHOW (P)
891 CREEPSHOW (P)
899 MADONNA SSHOW 2 (2)(*NP)
968 GOREZONE S/SHOW (X)(P)
1051 TOTAL RECALL S/SHOW(NP)
1085 COMIC SLIDESHOW (X)(NP)
1103 SPORTS ILLUST. GIRLS (P)
1263 RICHTER S/SHOW (2)(2D)(P)
1277 DIVINE VISIONS (2) *(NP)
1279 FORGOTTEN REALMS '90 (P)
1708 INVISIBLE WORLD (P)
1719 YABBA DABBA CARTOONS (P)
1781 REFLECTIONS (NP)
1835 NIGHTBREED SLIDESHOW (P)
1876 REFLECTIONS 6 (P)
1901 LEEDS UNITED S/SHOW (P)
1919 DEBBIE HARRY (2)(2D) * (NP)
1984 TERMINATOR S/SHOW(NP)
1986 ALIENS SLIDESHOW (NP)
1991 AQUARIUS IMAGES (P)
2179 MAG. FIELDS ART DISK

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(NP) = Not A500 Plus Compatible

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SCHOOL *of* THOUGHT

Education software is a strange beast. As their varied sub-games are played, can a child really learn anything from them? In the first of a regular series, Pat Winstanley takes a look at the many English Language Tutors currently available.

EDUCATION IN PD

The educational software market, like that for arcade games, is divided into three main sections by price. At one end of the scale are the £20-£30 packages with big, colourful boxes, at the other are Public Domain titles which come as a bare disk for £2-£3 and now beginning to compete for the middle ground is a range of software houses offering products around the £10 mark. What's the difference in the packages to make such a wide variation in costs to you, the consumer?

Full-price games are now being treated as serious product by large software houses and given the glossy promotion we see in the likes of *Magic Story Book* and the Disney series. Both these titles justify their prices due to the depth and extent of programming in the games, not just their boxes.

PD producers however are also improving their products, one factor here being the availability of AMOS which allows non-arcade titles to be programmed by almost anyone to an acceptable quality and depth. As the demand for educational products grows, educational software houses are recognising that many of the full-price products on the market are simply not worth what is being charged, and that increased sales at lower prices both satisfy the customer more and at the same time satisfy the need for profits. This is the basis of the middle range.

For now, though, PD is worthwhile in two ways – as a taster to see what kind of program appeals to a particular child and to increase the range the child has to choose from. Many PD educational titles are produced by hobbyist programmers using AMOS. Teachers and parents programming in their spare time have excellent opportunities to involve children in the creative process, something larger software houses cannot always do.

Don't expect great depth or fancy graphics from PD titles and you won't be disappointed. What you will find, though, is a wealth of educationally valuable games out there for a few meagre pounds – and they may be more specified to your needs. This is a highly recommended route to take either on its own or in conjunction with the purchase of one or two full-price packages. After all, as with school books, you can never have too many education packages, as variety is the key to absorbing the information.

EDUCATION V GAMES

Should educational programs be like video games? Until recently, almost all educational programs for home use resembled those in schools: simple drilling exercises with no frills and generally little in the way of graphics. The educational aspect was the be all and end all, and woe betide the programmer who tried to jazz things up a little for the kids. Now more and more programs are being released where the educational aspects are hidden away behind an arcade game.

Does it matter? When considering programs aimed for home use, yes it does. Children have had enough of 'boring school' when they come home. The last thing they want is to be plonked in front of a screen full of more work. If they want to use the computer at all they would rather have the latest shoot 'em up than a list of sums or spellings. Designers and programmers are beginning to recognise this with the result that the front end of educational games are beginning to resemble the latest chart-toppers, and this in turn is encouraging children to practise their basic skills without even realising it. At the same time, the power of machines like the Amiga means that mainstream games are beginning to include a great deal of strategy instead of the mindless beat-em-ups of the past few years. Games like *Populous*, *Captive*, and *Dungeon Master* have become classics in part due to their hidden educational aspects – calculation, strategy and logic problems rather than the usual reflex actions.

Is academic software boring? Some of the older games are, but newer ones need not be. However some children do suffer from distraction and those with short attention spans are often better off with a very plain, simple program than one which flashes fancy animation at them while waiting for an answer. In the long run, each child is different but none will persevere with a program that doesn't interest them. Choose wisely, perhaps having had a taster through the PD market, or one of the group packages such as a starting point, and you will soon find what interests your child.

The most academically sound program in the world is useless if your child doesn't enjoy it!

DOS AND DON'TS
Buying advice for parents

DO

1 Choose programs that children will enjoy as well as learn from. This is playtime, not homework.

2 Try the program with your child in the shop if possible.

3 Take recommended ages with a pinch of salt. Those suggested by publishers can be wildly inaccurate.

4 Look for programs which can be backed up. Disks and children are not a happy combination.

5 Aim for a program the child can operate independently. This means
älooking for mouse and icon control options for younger children.

DON'T

1 Don't worry if your child seems happiest with a program aimed at a younger age group. It will still be having useful practise.

2 Don't ignore arcade games - many have useful educational elements like mapping, buying objects and memory aspects – don't forget physical co-ordination and reflex formation.

3 Most educational programs cover at least some elements of the National Curriculum, but don't assume that any will cover them all.

4 Don't assume any program will teach. Some will but they are few and far between. Most offer only practise at skills already acquired.

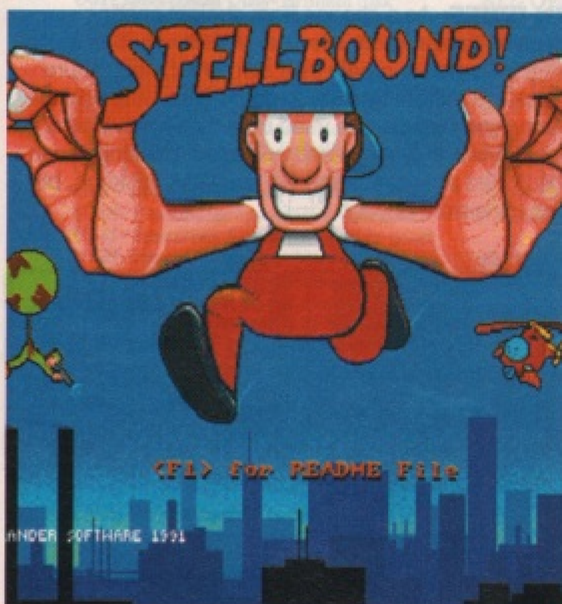
5 Don't assume your child can be left alone. Disk swapping and on-screen instructions beyond the child's reading abilities are very common.

SOFTWARE ROUND-UP

HENRIETTA'S BOOK OF SPELLS

Age: 7 - 14
Price: £25.99
Publisher: Lander Software
Address: 74 Victoria Crescent Road, Glasgow, G12 9JN

IN BRIEF: Hopeless Henry has been turned into a frog by the nasty witch, so the player must help Henry's wife, Henrietta, free him from this horrible fate. This involves solving a variety of word and letter puzzles in the spooky castle. These are very simple in execution, but prove to be immense fun, and bridge the gap between learning and entertainment perfectly. Probably the best spelling game around at the moment.Graphically, it's excellent, too.



This is Hal, Henrietta's American cousin. His mission is to rescue Morgana the Morbid's wand from Professor Grime ....



...... who doesn't seem to be the nicest of customers when Hal falls into his clutches......

VERDICT	
DOCUMENTATION	79%
EASE OF USE	65%
THOROUGHNESS	83%
LIKELIHOOD TO STIMULATE	69%
LIKELIHOOD TO INFORM	81%
ORIGINALITY	57%
COMPATIBILITY WITH N. CURRICULUM	93%
VALUE FOR MONEY	90%
OVERALL	**80%**

SPELL!

Age: 5 - 15
Price: £25.99
Publisher: Europress Software
Address: Europa House, Adlington Park, Macclesfield, SK10 4NP

IN BRIEF: Designed to cover a wide range of spelling problesm encountered by both children and adults, this package offers plenty of flexibility in its five different games. A Set of word lists (5000 words in all) cover different types of difficulties such as vowel sounds, word families and irregular spellings. Overall, though, the package suffers from terrible screen design – which can make it hard on the eyes – and consequently short-lived fun.

VERDICT	
DOCUMENTATION	60%
EASE OF USE	71%
THOROUGHNESS	85%
LIKELIHOOD TO STIMULATE	27%
LIKELIHOOD TO INFORM	34%
ORIGINALITY	23%
COMPATIBILITY WITH N. CURRICULUM	76%
VALUE FOR MONEY	55%
OVERALL	**52%**

SPELLBOUND!

Age: 7 - Adult
Price: 29.95
Publisher: Lander Software
Address: 74 Victoria Crescent Road, Glasgow, G12 9JN

IN BRIEF: A useful series of programs for beginner readers using the 'look, cover and spell' technique as practised in many schools. Even young children can cope with a little parental intervention, and after a while they'll be strolling through its many scenes. A little weedy in places and often finicky to use, this is worth persevering with.

VERDICT	
DOCUMENTATION	82%
EASE OF USE	43%
THOROUGHNESS	79%
LIKELIHOOD TO STIMULATE	89%
LIKELIHOOD TO INFORM	81%
ORIGINALITY	76%
COMPATIBILITY WITH N. CURRICULUM	81%
VALUE FOR MONEY	68%
OVERALL	**75%**

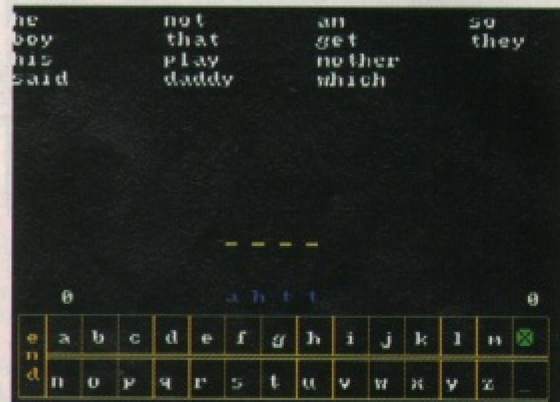
THINGS TO DO WITH WORDS

Age: 5 - 12
Price: £11.99
Publisher: Soft Stuff
Address: 19 Quarry Hill Road, Tonbridge, Kent, TN9 2RN

IN BRIEF: This is a collection of three word games which encourage spelling in quite a fun way. Anagrams, Jumbled Sentences and Word Hunt (make as many words as possible from the letters of another) are all simple to play, with little distraction. There are no frills, but this is a solid workable package.



This friendly character is a bookworm, as you will see on various screens during the game where his progress leaves neat round tunnels through various volumes.



Here is one of the easier anagram screens, with a selection of possible answers above to help the child choose.

VERDICT	
DOCUMENTATION	75%
EASE OF USE	84%
THOROUGHNESS	75%
LIKELIHOOD TO STIMULATE	70%
LIKELIHOOD TO INFORM	79%
ORIGINALITY	35%
COMPATIBILITY WITH N. CURRICULUM	47%
VALUE FOR MONEY	80%
OVERALL	**62%**

JUNIOR TYPIST

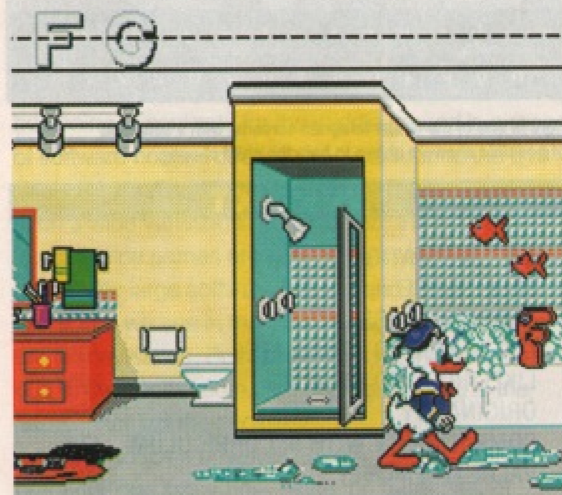
Age: 4 - 10
Price: £16.95
Publisher: School Software Ltd
Address: Tait Business Centre, Dominic St, Limerick, Ireland.

IN BRIEF: Aimed at youngsters, but also eminently suitable for adults, this program offers tutorial, game and spelling sections. The game consists of various words dropping from the top of the screen at different speeds, while the budding typist has to type them in before they reach the ground. Perfect for family tuition, it'll help refine keyboard and language skills.

VERDICT	
DOCUMENTATION	21%
EASE OF USE	67%
THOROUGHNESS	72%
LIKELIHOOD TO STIMULATE	86%
LIKELIHOOD TO INFORM	83%
ORIGINALITY	78%
COMPATIBILITY WITH N. CURRICULUM	66%
VALUE FOR MONEY	84%
OVERALL	**62%**



All the letters of the alphabet are hiding in disguise from Donald. Press the correct key to catch them. Note the sticky-out-tongue!



And here's an 'F' trying to come clean. Press a key and Donald will put paid to its dirty tricks.

DONALD'S ALPHABET CHASE

Age: 2 - 5
Price:
Publisher: Disney Software
Address:

IN BRIEF: Everyone loves the Disney characters and this game is designed to make use of Donald Duck to help toddlers become familiar with letters in a fun way. The letters of the alphabet are hidden in Donald's house and the child must spot them and press the corresponding key so that Donald can catch them. Not bad, but supervision is recommended.

VERDICT

DOCUMENTATION	65%
EASE OF USE	76%
THOROUGHNESS	68%
LIKELIHOOD TO STIMULATE	93%
LIKELIHOOD TO INFORM	38%
ORIGINALITY	88%
COMPATIBILITY WITH N. CURRICULUM	30%
VALUE FOR MONEY	66%

OVERALL 65%

BETTER SPELLING

Age: 8 - 14
Price: £22.95
Publisher: School Software Ltd
Address: Tait Business Centre, Dominic St, Limerick, Ireland.

IN BRIEF: Only two activities are available in this program, spelling using the 'look, cover, see' method and anagrams, but the presentation is delightful and a positive draw for children. The main screen is laid out as a blackboard, complete with chalk and board rubber. As a question is answered a spinning tick or cross appears. After several correct answers, a bonus question appears giving a good incentive. The anagrams go down particularly well.

VERDICT

DOCUMENTATION	44%
EASE OF USE	83%
THOROUGHNESS	69%
LIKELIHOOD TO STIMULATE	85%
LIKELIHOOD TO INFORM	77%
ORIGINALITY	60%
COMPATIBILITY WITH N. CURRICULUM	71%
VALUE FOR MONEY	66%

OVERALL 65%

LEARN TO READ WITH PROF

Age: 4 - 9
Price:
Publisher: Prisma Software
Address: 29 St James Avenue, Upton Heath, Chester, Cheshire, CH2 1NB

IN BRIEF: This series of programs is designed to take non-readers through from beginning to recognise words to constructing sentences. Although colourful animations play a part the emphasis is on simple controls and drilling of the basics. Four separate but interlinked packages are available; 'Prof Plays a New Game', 'Prof LooKs at Words', 'Prof Makes Sentences' and 'Prof Hunts for Words'. It's extremely thorough and sticks to the National Currciulum, but it suffers from a rather dodgy manual.

VERDICT

DOCUMENTATION	56%
EASE OF USE	67%
THOROUGHNESS	90%
LIKELIHOOD TO STIMULATE	50%
LIKELIHOOD TO INFORM	76%
ORIGINALITY	75%
COMPATIBILITY WITH N. CURRICULUM	93%
VALUE FOR MONEY	68%

OVERALL 67%

LET'S SPELL

Age: 4 - 9
Price: £11.99 (each pack)
Publisher: Soft Stuff
Address: 19 Quarry Hill Road, Tonbridge, Kent, TN9 2RN

IN BRIEF: 'At the Shops', 'Out and About' and 'At Home' make up the Let's Spell series where the child clicks on an item of scenery then spells it using an on-screen alphabet. French language versions are also available, complete with accents. An excellent all-rounder, which initially hooks the user with its graphics, and keeps them there with its content.

VERDICT

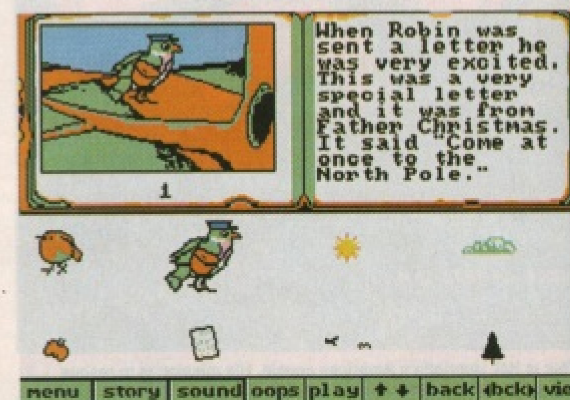
DOCUMENTATION	76%
EASE OF USE	91%
THOROUGHNESS	75%
LIKELIHOOD TO STIMULATE	63%
LIKELIHOOD TO INFORM	67%
ORIGINALITY	83%
COMPATIBILITY WITH N. CURRICULUM	59%
VALUE FOR MONEY	85%

OVERALL 70%

MAGIC STORY BOOK

Age: 5 - 14
Price: £29.95
Publisher: Soft Stuff
Address: 19 Quarry Hill Road, Tonbridge, Kent, TN9 2RN

IN BRIEF: As a change from straight spelling games, this program allows any child, whether a reader or not, to create their own on-screen picture book. It's extremely easy to get to grips with, and the story elements can be used from those provided on disk or words typed in and animated sequences can be added at a later stage. An excellent package, but not consistent enough.



Here a double page spread is partially complete. All that needs doing is to paste in the picture elements.



And now it's time to add some sound effects from the selection above, together with play duration times.

VERDICT

DOCUMENTATION	91%
EASE OF USE	86%
THOROUGHNESS	79%
LIKELIHOOD TO STIMULATE	90%
LIKELIHOOD TO INFORM	63%
ORIGINALITY	78%
COMPATIBILITY WITH N. CURRICULUM	82%
VALUE FOR MONEY	92%

OVERALL 87%

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U94- Opti Utils 1- Excellent quality
U98 - 104 High Quality Clip Art 7 disks
U118- Pendle Europa Utils 7- Excellent
U121- Spectrum Emulator- Rather good
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U143- SuperKillers- BOOTX ***V4.41***
U144- HamLab- Iff conversion prog
U145- Total Utils 1- 20 utilities
U152- Xenon Utils- Seventy five utilities
U156- Garfield Clipart- Usefull stuff ?
U161- Anthrox Utils ***V5*****-** Recommended !
U162- Deflex Utils 1- Unusual collection
U170- Icon Magic- Excellent programme
U172- DTP- Based on the amigafox **W/P**
U188- Programming 1- Lots of info
U192- Night Flyers 4- Excellent disk
U195- Opti Utils 2- Latest version utilities
U196- Opti Comms- *Ultimate* Comms disk
U197- C Dir Tools- Stuffed full of them !
U199- NUKE ***V1.5a*****- Latest** (ta Dave)
U200- Imploder ***V4*****- Excellent packer**
U207- Printer Utils- By the Assassins
U209- Dynamite Fonts2- More cut n paste
U215- Print Studio- The **BEST** print util
U220/1- North C Compiler (2 disks)
U222/3/4/5- C Manual V2 (4 disks)
U226- Gelignite Fonts- Brilliant(ta mark)
U232- Gelignite Fonts 2- Mark &Dan (ta)
U233/4- WindowsBench V2-Mikesoft. (ta)
U237- Insanity Tools- 203 tools no docs
U238- Gelignite Fonts 3 - Mark at his best
U240- OptiComms 2- NCOMM V2.0
U241/2/3/4/5- PageStream Fonts - 5 disks
U246/7-Clip-It! Vol 6- Mythological beasts

Educational & Games

G31/2- Star Trek- By Tobias Richter
G35- Board Games- Includes Monopoly
G39- Flaschbier- Excellent game
G43- Megaball- Brilliant breakout clone
G50- Shapes- Absolutely brilliant 4 kids
G53- Zeus- Very addictive tile game
G55- Sealance- Sub strategy type game
G62- POM POM Gunner- *Very Good !*
G70- Skier- Excellent game
G72- Snakepit- Suitable for the kids,good
G80- Peter's Quest- Lovely graphics
G91- Insiders Club- Stock Market strategy
APD59- Super Quiz- Excellent quiz game
APD62- Arcadia- Nice breakout clone
APD110- Crossfire- Very nicely done
APD115- Baloonacy- Superb for the kids
APD130- Wooden Ball- Brilliant !!!
APD142- Pair Crazy- Very good
APD146- Fruit Machine- For the addict
APD148- Demolition mission-
APD160- Quizmaster- Excellent
APD178- Mastermind / Pairup- Good
APD180/1- Dungeon Delver- Brilliant
APD182/3- Pixie Kingdom- Very good
APD314- Blackjack Trainer- Superb
APD315- Silver Bars & The Enemy
APD326- Hyperball- ***Best yet, get it***
APD329- Fruit Machine- Brilliant game

FISH 1-620, TBAG 1-64 SMAUG , PANARAMA NZAUG , TOPIK , SNAG AMIGOS , SCOPE & THE PREMIER COLLECTION AVAILABLE.

Business & Serious

B02- Wordwright- Wordprocessor
B04- Clerk- Accounting
B06- U-Edit- Very powerful w/processor
B07- Flexibase- Powerful yet easy to use
B10- Inventory & Memopad- Very handy
B12- Business Card Maker- Pretty Good
B14- Visicalc- Similer to lotus 1-2-3 on PC
B17- QED- Superb texteditor
B18- Textplus ***V3.0E*****-** Edit crunched files !
B19- 600 Business Letters- Brilliant
B21- BBase II- Easy to use database
B22- DataBase Wiz- Name & address
B23- TextEngine V3- Superb
B30- Amibase Pro III- Ex Licenceware
APD52- Forms Really Unlimited
APD132- Family History Database
APD138- Spanish Tutor- Pretty good !
APD257- Cassette Labeler- For the inlays

Slideshows & Pics

P11/2- Nasa Slideshows- Both 1 & 2 here
P25- Roger Dean- Excellent slideshow
P32- Agatron 6- From Tobias Richter
P33- Agatron 8- More from T Rs stable
P40- Max's Art- Very nicely done.
P41- Nemesis Prologue- From Hanibal
P48- Psygnosis slidshow- Rather brilliant
P54- Sunconnection- More from this group
P62/3 Channel 42 & Silents- Very good
P65- Agatron 12- Fantastic quality
P66- Fraxion Future Visions- Very good
P67- Agatron 11- Incredible standards
P76/7- Nemesis Chapt. 1- The next chapter
P78/8- Laurel & Hardy- Brilliant for fans
P83- Invisible world- Bugs n things
P85- Robocop- By Hanibal,*Unbelievable !!*
P89- Art for Arts Sake- By Hanibal- Brill

Animations (most 1mb)

A06- More Aerotoons- By Eric Schwartz
A10- Batman- This is brilliant (by E S)
A11- Puggs in Space- Brilliant
A12- Probe- The most famous of all anims
A17- Stealthy II- Excellent little animation
A19- Star Trek Fleet Manoeuvers- good
A20- Agatron 26- Dry dock
A13- Agatron 2- Includes F15 fighter
A49- Fractal flight- Small screen anim.
A58- Walk- Brilliant chrome legs walking
A61- Agatron 15- Billiards & Lotus + F15
A62- Stamp Collector- Brilliant sequence
A63- Juggler II- Very,very funny.see it !
A76- Agatron 30- Millenium Falcoin
A79- Agatron 33- Probe &bird of prey
A83- Discovery Shuttle- Very good
A87- Car- Lotus & Unicycle, brilliant
A89- Agatron 22- Includes aproach + more
A90- Agatron 20- Belle Hucy Helicopter
A94/5- X-Wing- Rather brilliant sequence
A96/7- Light Cycle- From Tron and Brill !
A98/9- Anti-Lemmings- 2 MEG
A100/1/2/3/4/5- The Wall- Exceptional
A107/8/910- THE LANDING- 4 MEG
A112- Juggette II- Another hilarious anim
A115- Agatron 27- Book and others
A116- Agatron 28- Disconnect, Beautiful
A117- Agatron 29- Millenium Falcon
A124- Shuttlecock- By Eric Schwartz
A126- Real 3D Anim- "Real Pinball"
A127- Real 3D Anim2- T-Pot and balls (?)

Music

M01- Sound samples- includes perfect snd
M04- Vangelis- Brilliant music & graphics
M10- Jean Michel Jarre- With good pics
M18- Amigadeus- By Rod Baxter- Brill
M19- Classix 1- Mr Baxter strikes again !
M20- Classix 2- More of his formidable wk
M34- APDC 11- Sound utilities
M35- APDL 28- *MIDI UTILITIES*
M52/3/4/5- Modules- Need I say more ?
M58/9/60- Metal Modules- Good
M61/2/3- Sound samples for S/Tracker
M115- Scoopex Music Utils- By the score
M131- Deluxe Music Data- Needs DM
M145- Midi Programmes-
M152- Midi Programmes- More
M165- MED V3.2 Fantastic music editor
M172- Audiomagic ***V1.1*****-** Brilliant utilities
M192- Do The Bartman Re-Mix !!
M196- Powerlords Sound Utilities
M198/9- Vivaldi- By Rob Baxter
M201/2/3- House Samples
M208/9- RSI Modules Disks
M216- Drums & Pipes- Brilliant
M223- RSI Modules Disk 3
M225- Audiomagic ***V2*****-** More utilities
M227- Psygnosis Samples- Sound samples
M230- Jean Michel Jarre Live- ***Brilliant***
M234- Delta Music Editor- Very good

Deja Vu (incorporating AMOS licenceware) £3.50

LPD5- Jungle Bungle- Superb adventure game for kids, Icon driven. **1meg**
LPD8- Work & Play- 3 educational games for young kids, Recommended. **1meg**
LPD14- Play It Safe- Aimed at educating the young kids about safety. **1meg**
LPD22- LC10/200 Fonts- This enables you to install more fonts in your printer **512k**
LPD27- Flower Power- Educationaly orientated for the very young **1meg**
LPD28- BudBase1- Beautifully easy to use and extremely user friendly, try it. **512k**
LPD29- Big Top Fun- Yet another brilliant educational game from Len Tucker. **1meg**
LPD32- Hard Drive Menu System- Superb hard drive utility, used by us!
LPD34-Invoice Printer- For use bySmall Busines firms on own headed paper **1meg**
LPD35- T-TecDraw- Full technical drawing program.Fantastic results. **1meg**
LPD38- Amos Art- Full of goodies for inclusion in your own **AMOS** creations
LPD40- SpriteBank Editor- Bloody Superb, Need I say more ? **needs Amos**
LPD45- MUSIC BOX- The ultimate in music education for kids, . **1meg**
LPD46- Magpies Clipart- Crystal clear images of clipart, catagorised, **512k**
LPD47- Dirty Cash- Beautifully done fruit machine simulator, excellent **1meg**
LPD50- Magpies Clipart 2- More quality clipart images from the magpie. **512k**
LPD51- Magical young artist- A colouring in type program for kids. **512k**
LPD52- LC24/200 Fonts- Same as lpd22 but also thought to be compatible with most printers ! **512k**
LPD53- Magpies Clipart 3- **512k**
LPD54- Magpies Clipart 4- **512k**
LPD55- SpriteX V1.32- An update to the earlier version and enhanced. **AMOS**
LPD56- C Text V1.32- An nextension to Amos to allow you tro use icon based fonts
LPD65- POWER PLANNER- An address database and appointment planner. **512k**
LPD68- Virus Buster- Excellent by ROD
LPD73- Amos Database V3.01 **512k**
LPD75- Video Lab- Brilliant Video titeling package,Very easy to use! **1 meg**
LPD77- Powerbase- Excellent **1 meg**
LPD79- Music Engine- Excellent music playing routine for Amos users. **AMOS**
LPD81- Pools Pro V1.1 Pools predictor and quite good. **512k.**

Commercial Software

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Deluxe Paint IV	£69.99
Deluxe Paint III.(limited stock)	£19.99
Deluxe Print II	£44.99
Spectracolour	£69.99
DigiView Media Station	£149.99
Walt Disney Anim.Studio	£69.99
Imagine V2	£224.99
Turbo Silver	£49.99
Art Dept. Pro **V2**	£169.99
Real 3D Pro **V1.4**	£274.99
Sculpt Animate 4D Pro	£299.99
Pixel 3D V2	£89.99
ProDraw V2	£99.99
Map Master for Imagine	£49.99
Surface Master for Imagine	£24.99
F15 Anim Brushes	£14.99
Red Lotus Anim Brushes	£14.99
Animfonts 1	£29.99
Animfonts 2	£29.99
Animfonts 3	£29.99
Animfonts 4	£39.99

DESK TOP PUBLISHERS

Saxon Publisher V1.1	£199.99
Pro-Page V2	£149.99
Pagestream V2.2	£149.99
Pagestream Fonts 1	£49.99
Pagestream Fonts Plus	£49.99
Pagestream Business Forms	£29.99
Pagestream Quick Forms	£29.99
Pagesetter 2	£59.99
Pro-Page Clip Art	£39.99

PROGRAMMING

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Devpack V2	£39.99
Hisoft Basic	£59.99
Hisoft Extend	£24.99
BlitzBasic	£149.99
Aztec C Pro 5.0D	£199.99
Amos	£34.99
Amos Compiler	£22.99
Amos 3D	£27.99
ARexx	£34.99
Power Windows 2.5	£69.99

PRESENTATION

Scala	£224.99
Scala 500	£99.99
Hyperbook	£59.99
Can-Do	£99.99

DATABASES

Superbase 4.0 Pro	£199.99

LITERATURE

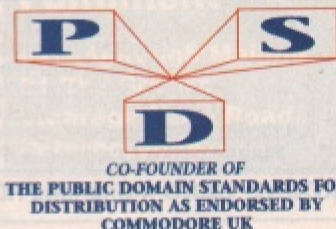
Using ARexx(with disk)	£27.99
The Imagine Companion	£24.99
Amiga Dos Manual	£17.99
Superbase, The Book	£11.99

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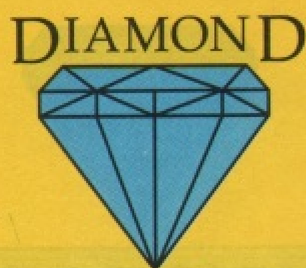
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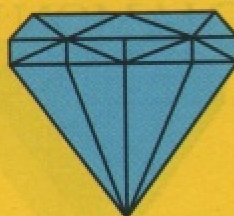
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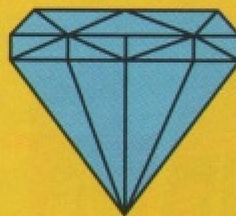
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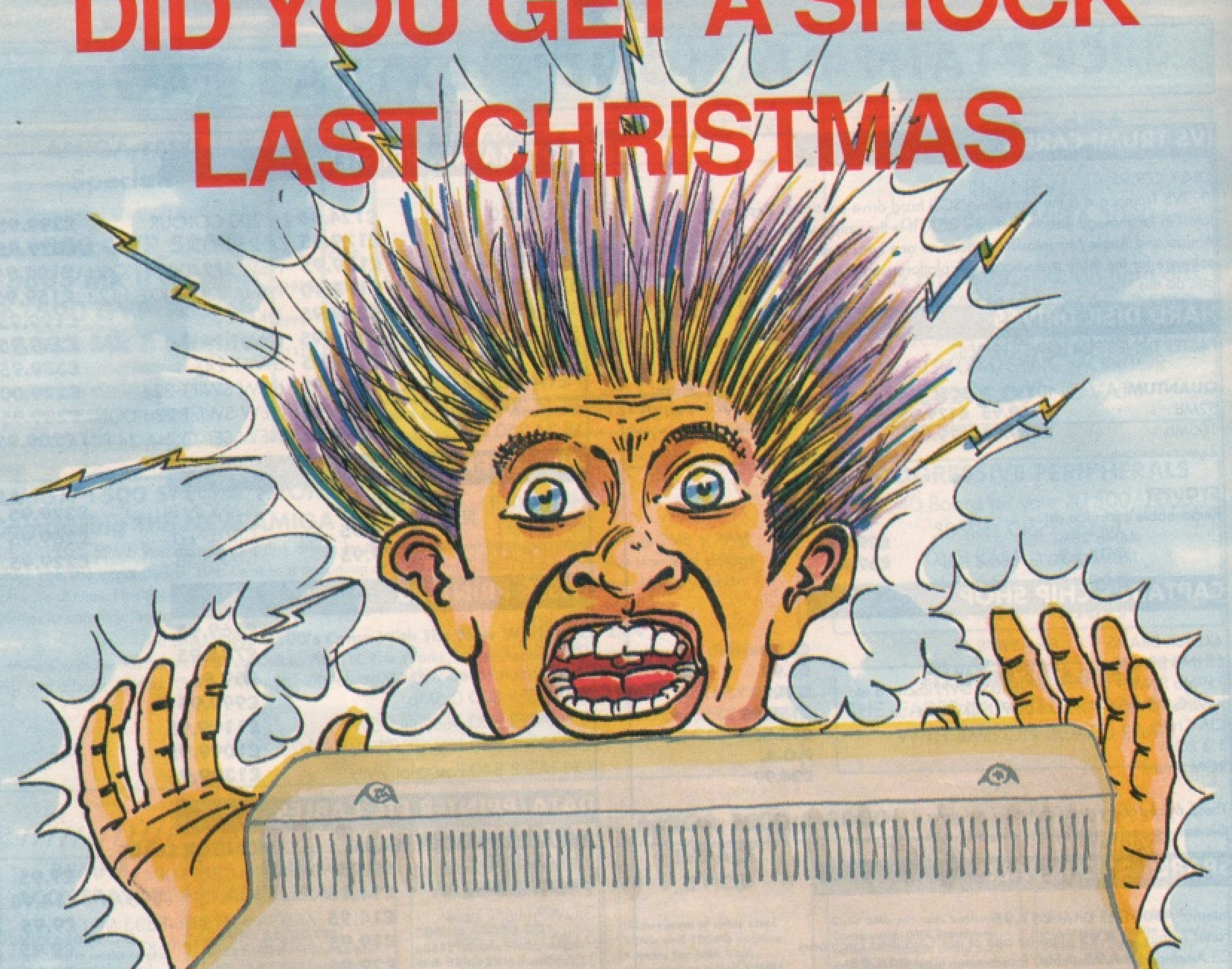
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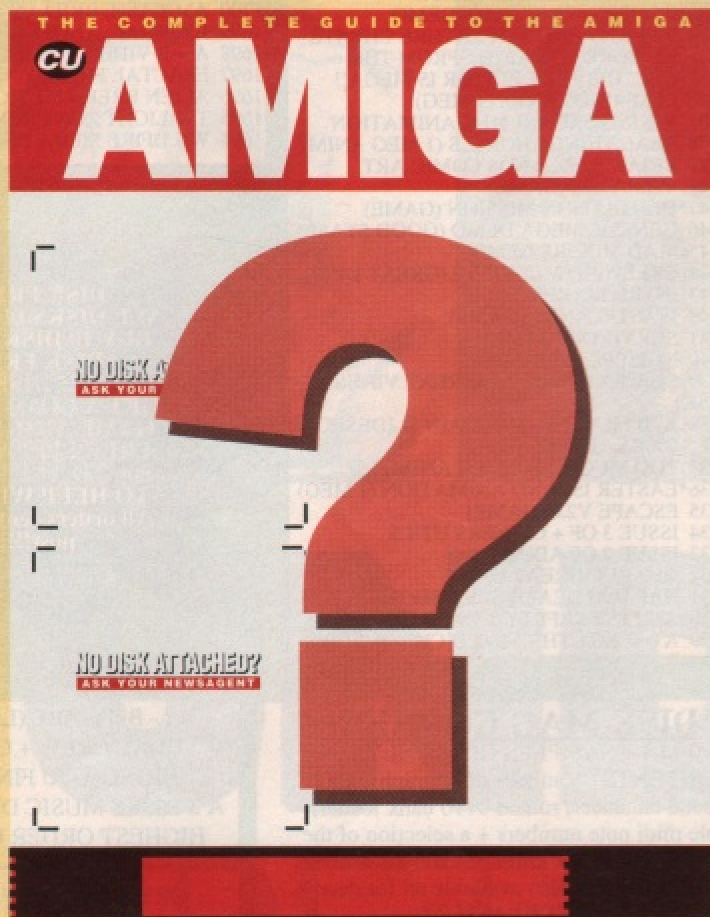
If your regular supplier fobbed you off with inferior goods go back and demand a refund. Note, product codes on the rear of all genuine UK monitors ended in either 05G or 55G, if yours did not, then you haven't got the real Mc-Coy. 10G was manufactured for the Dutch market and 20G was designed for the Far East, neither are safe working on a British power supply. Get it checked before it's too late!!!...

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NEXT MONTH

If you thought the new-look CU Amiga was a good read, wait until you see next month's issue! On sale May 26th, it's bursting with amazing features on all things Amiga. For starters, all our usual in-depth reviews and product tests will be there, as well as new Buyer's Guides on a whole range of products, ranging from modems and joysticks to memory expansions and top movie licenses. There's a report from the World Of Commodore Show in New York detailing all the latest developments and technical advances for the Amiga, and we'll also be presenting more of our wonderful Blue Pages tutorials, featuring walk-through guides to popular PD and full-price utilities. It's all in next month's CU Amiga – you'd be mad to miss it...



A TON OF FUN

Yes, that's right, we're continuing our policy of giving you the best-value coverdisks on any Amiga mag with a massive £120 giveaway of full-price programs. Not only that, but we'll also have two of the hottest game demos around as well as a first look at Gremlin's *Zool* – the 'Space Ninja' they hope will be the Amiga's equivalent to *Sonic The Hedgehog*.

GAMES GALORE

As usual, you'll read the first reviews in CU Amiga and next month's going to be no exception with exclusive examinations of Lucasfilm's *Monkey Island 2*, Readysoft's *Guy Spy*, and Rage's *Striker*, a 3D soccer game unlike any you have seen or played before...

SHOWTIME

Nick Veitch reports from the World of Commodore Show in New York. One of the biggest all-Amiga shows in the world, all the latest machines will be on display along with some heavy duty hardware. Our 5-page feature details all the latest advances as well as showcasing some of the products you can expect to see appearing later in the year.

NEXT ISSUE
on sale
May 26

DO-IT-YOURSELF

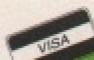
We kick off our DIY column with details of how to make a joystick/mouse converter which can switch between the two at the click of a button. In coming months we'll be taking a look at inserting accelerator cards, repairing joysticks, aligning drive heads and general Amiga repairs.

GET SERIOUS

As usual, our in-depth reviews of serious software continue to set the pace. Over 30-pages of product tests mean we give the most complete coverage of any Amiga magazine. Items for review next issue include *Image Master*, a 24-bit paint package, and *V-LAB* – a real-time video digitiser. Also on test will be the GVP Mk.2, a 24-bit card, and the new Power Scanner.

GOING PUBLIC

Bigger and better than the rest, CU Amiga's PD Scene and PD Utilities columns cover the entire spectrum of the Public Domain and give the most comprehensive buyer's guide information of any magazine. Next issue also sees the start of our special 'Amazing Worlds' feature which focuses on top demo groups from around the world.



17 Bit Software

Quality public domain software for the Amiga

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THE * MEANS NOT + COMPATIBLE

DEJA-VU

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LPD84 QUESS WHO, NEAT PUZZLE GAME
LPD83 PICTURE HANGMAN (GOOD FUN)
LPD82 COLOURING BOOK 2 (BRILLIANT)
LPD81 POOLS PRO PREDITOR (BRILL)
LPD80 ICON BANK EDITOR
LPD79 MUSIC ENGINE, (MUSIC PLAYER)
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LPD45 MUSIC BOX, LIKE SONIX,VERY NICE
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1776 LEMMINGS ANIM (1 MEG)
1777 VIKING SAGA, 1 MEG ANIMATION
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THAT BIT BETTER THAN THE REST



WIN A CDTV!

If you're reading this in Australia, you can WIN a CDTV!

Most of CU Amiga's Australian readers don't stand a Dingo's chance of winning our compos, as it takes months for their entries to reach us. However, to make amends with our loyal Aussie readers, we're offering one of them the chance to win a wonderful CDTV unit – guaranteed to work with their Antipodean Amigas. And for one runner-up, there's a bundle of twenty games, whilst another ten will win one-year subscriptions to the amazing CU Amiga.

What do our down under followers have to do to win this superb device? It's easy. Listed elsewhere on the page are five multiple-choice questions awaiting your attention. They're all related to famous Aussies who have made it in Britain, including members of that well-known Oz export, Neighbours. Still, enough of this chit-chat– we're off to watch Prisoner Cell Block H – here are the all-important questions...

1 Name this famous Oz artist, seen to the right promoting Commodore's decrepit C64. Is it:

A. Kikky The Koala
B. Rolf Harris
C. Paul Robinson
D. Paul Keating

2 What was Kylie Minogue's first hit single called? Was it:

A. I Should Be So Lucky
B. The Locomotion
C. Any Dream Will Do
D. Paul Keating



3 Talking of Neighbours stars, who went on to star in Andrew Lloyd-Webber's 'Joseph And His Amazing Technicolour Dreamcoat'? Was it:

A. Ian Smith
B. The Twins
C. Jason Donovan
D. Paul Keating





4 Which one of the following isn't a popular Aussie soap?

A. Home And Away
B. The Young Doctors
C. The Flying Doctors
D. Paul Keating

5 Name the incredibly talented Kangaroo who starred in its own series:

A. Drippy
B. Dippy
C. Skippy
D. Paul Keating

DOWN UNDER COMPETITION

When you've answered all five of these incredibly hard questions, simply pop them on the back of a postcard, and address it to: Aussie Compo, CU Amiga, Priory Court, 30-32 Farringdon Lane, Farringdon, London, EC1 3AU. England.

The compo closes on September the 30th 1992, so there's plenty of time to tie that Kangaroo down, Sport, and get those entries in. Any received after will be binned.

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6 Finally, there's a tie-breaker to help us determine the winner. Simply read the following phrase and complete it in no more than ten words.

I love the Queen because...

when it comes to the

crunch...

Disk space is always a problem, Mat Broomfield doubles up as he explores the avenues available for the burdened floppy user...

THE SQUEEZE

No matter how much data you squeeze onto a disk, it always seems that there's never quite enough space. A number of solutions have emerged, ranging from data compression and archiving systems, to higher capacity disks and drives. It's the former two methods that are the subject of this article.

Data compression can be split into two basic categories: data specific systems, such as the graphics-only JPEG, and generic ones which will work with any type of data. Although data specific systems yield the most impressive space savings, generic compression routines are far more practical in everyday use thanks to their versatility.

Generic compression systems can be further divided into two categories: single or multi-file. *Powerpacker* is probably the best known of the single-file compression programs (see panel). For now, I want to look at multi-file systems, which are more commonly referred to as archivers.

ARCHIVE IT

An archiver can be used to process the entire contents of a disk – or disks – and convert them into a compressed format which still retains all of the directory and file information, yet which is stored as a single block of data. Individual files and directories can then be extracted from this archived data block at the user's leisure.

There are many archivers available, most of which can be found in the Public Domain. The most popular are *LHArc*, *LhA*, *Zoo* and *PKAZip*, all of which produce more or less the same end result. The two most important features of any archiver, are the speed at which it compresses and decompresses data, and the amount of compression it can achieve. Higher compression rates mean longer compression times, so a moderate balance of the two is usually chosen.

YOU'RE HISTORY

The original archiver was created as a result of a compression formula called the Huffman algorithm. This was used by Japanese programmer, Haruyasu Yoshizaki, to write the first MSDOS archiver for use on PCs and mainframes. Since then, the original algorithm has undergone several refinements, but still stands as the basis for all commonly-used archivers.

The most popular use for archivers is on bulletin boards, where modem owners can ring up and receive full programs via the telephone lines. Each second of download time costs valuable money, so it's important to reduce the files to their smallest size. Despite their widespread use, though, there's still no single standard for archivers, but users of certain bulletin boards or distribution networks tend to favour particular types. For example, the Fred Fish Public Domain disks generally use *LHArc* format, as do many CIX bulletin board users. Because they were originally used primarily by 'serious' users, most archivers aren't intuition-driven and therefore don't have user-friendly menus or mouse-operated gadgets.

A SAMPLE SCRIPT

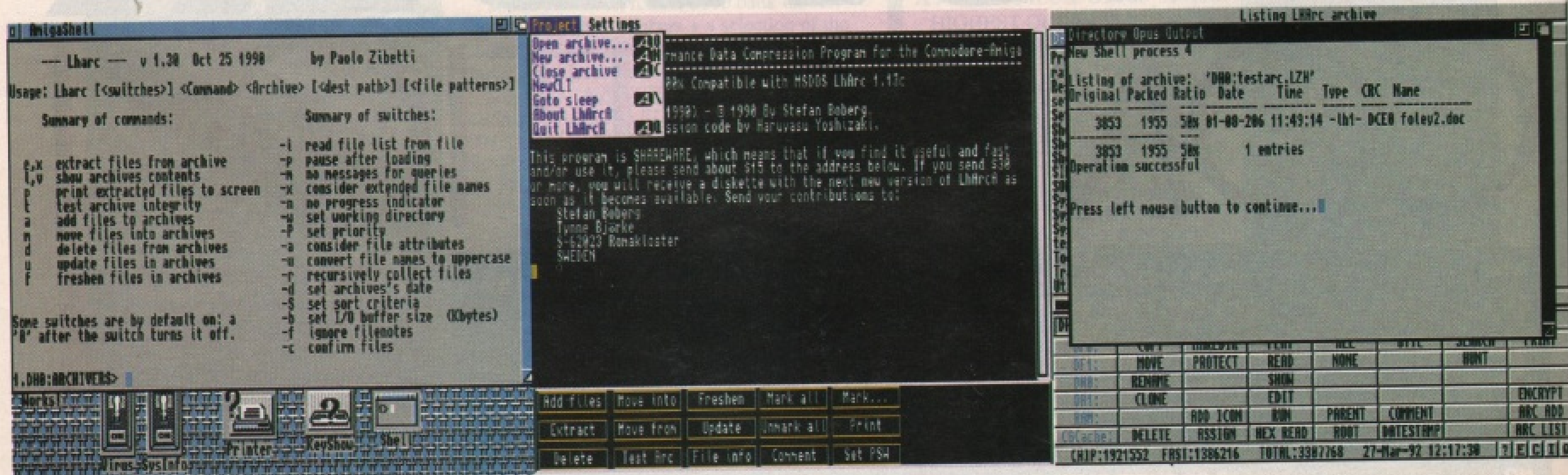
Most archivers are script-driven, and require instructions to be issued via CLI or Shell. A typical instruction may look like this: LHArc -x a archive-name DF1:text *.doc

The instruction comprises five main elements: switches, command, archive, filename and pattern.

Although I used `-x', there are a number of possible switches. Their use is optional, but they can clarify the way the archive should proceed – for example whether items within directories should be included or not. The command ('a' in this case), tells the archiver what to do with the archive (ie whether to add or remove files, or perform some other operation). The archive simply indicates the name of the archive file to be read from or written to. If the user is adding files to an archive, but one doesn't exist yet, one will be created with the name

POWERPACKING *Powerpacker* is the best known file compressor available, and as is often the case, it started life as a programmer's tool. After undergoing a series of revisions and upgrades, it was released commercially and is now available as version *V4.0*. It can compress data files or executable programs, and has been known to achieve compression rates of over 60%, especially when used on IFF screens.

Powerpacker is now accompanied by a suite of programs designed to manipulate *Powerpack*ed files. *PPMore* is used for reading text, whilst *PPShow* for viewing screens. *PPAnim* will replay animations. Until recently it could only be used to compress individual files, but the latest versions of the program are supplied with a scripting utility that allows the user to automatically compress or decompress all or some of the files on a disk or hard drive. However, thanks to our amazing genorosity, a complete version of *Powerpacker V3.0* is gracing this month's coverdisk – what more could you possibly want!



LHarc is relatively simple to use, but the upgraded version, *LHA*, has enough options to keep the most fanatical technophile busy!

LHarca is the intuition-based version of *LHarc*, which is one of the most popular archivers available.

Opus lets you use your archiver to add to or list an archive file. It's program buttons are ideal for simplying complicated functions.

FEATURES COMPARISON

Because archive users are constantly looking for the 'ultimate' program, this table shows the average results of multiple compression and decompression of 2Mb of text, graphics and other data formats stored in multiple files, using multiple switches.

	TIME (S)	COMPRESSED SIZE	SAVING	COMPRESSION RATIO
LHA V1.10	64	707135	64.5%	2.8:1
LHARC V1.30	120	775914	61.0%	2.6:1
PKAZIP V1.02	124	737767	63.0%	2.7:1
ZOO V2.1	176	707476	64.5%	2.8:1

It comes as no great surprise to see that *LHA* comes first in every test as it's the most recently-released package. But if you look at the results for *Zoo*, you'll notice the classic trade off: great compression rate, lousy speed!

given in this section. Filename is used to specify the file to be archived, however, if the name of a directory is given (DF1:c or DH0:devs for example), the entire directory will be archived. Pattern, the final element of the instruction, can be used to filter out unwanted files. In this case, I've told the archiver only to access files that end in the characters '.doc'.

There are hundreds of ways that these elements can be combined, giving endless archiving permutations, and virtually absolute control over the finished results. The manual for *LHA* alone covers nearly fifty pages, so you'll appreciate it if I don't explain every combination! Mind you, the results it offers are well worth the effort, and most users probably won't need to read beyond page ten in any case.

THE BIG ONE

Despite their incredible power and flexibility, most archivers come unstuck when you want to transfer a large file from hard disk to floppy. If the compressed file comes to over 880k, most archivers are unable to split it so that it can be stored on several disks. There is however, an American program which can do exactly that.

***Quarterback Tools* is an invaluable utility which compresses even the largest of files, automatically requesting new floppy disks as it requires them. It achieves the highest rate of compression possible, but to do this it creates disks which cannot be read by the standard Amiga DOS. Most of the time this isn't a problem, but sometimes it can be inconvenient – especially if you want to copy a single compressed file to another disk.**

***Quarterback Tools* costs £52.13 plus VAT and can be bought from HB Marketing, Concorde Building, Unit 3, Poyle 14, Colnbrook, Berks. SL3 0LX.**

CONCLUSION

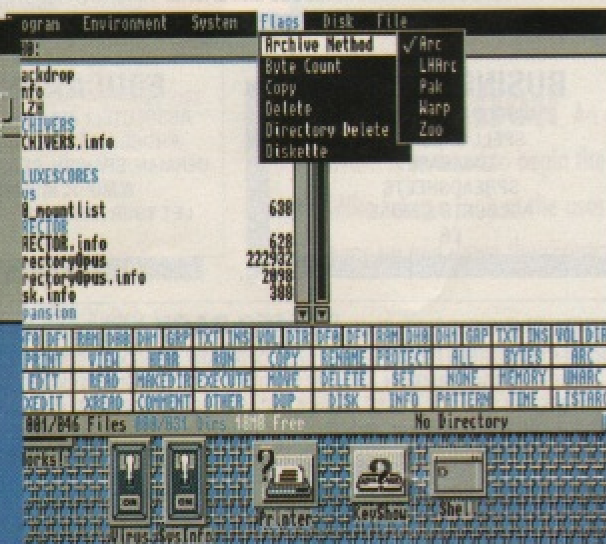
To summarise, archivers can make your life easier by storing and compressing files in a single large block of code – an archive. Additional files can be added to this at a later date, or removed if they're no longer required. The date-stamping option allows the user to automatically create archives consisting of files created or modified after a certain date, making it an ideal way of backing up data on a hard drive.

There are dozens of cheap archivers available, but the best known is *LHArc*, although *LHArca* and *PKAzip* are both intuition driven, and hence more user-friendly. If you want serious compression, remember that it comes at the cost of speed – but it could be worth that extra time. To summarise, archivers are very simple to use, can save you loads of disk space – not to mention phone bills – and are an essential utility for any 'serious' user. Why not buy one today?

ADDRESS BOOK

Most archivers are Public Domain and can be bought from any PD library, or downloaded from a bulletin board. If you have problems getting hold of one, contact 17 Bit Software, 1st Floor Offices, 2/8 Market St, Wakefield, West Yorkshire, WF1 1DH. Tel: 0924 366982.

Powerpacker is one of the original compression programs, and has undergone several refinements and tweaks.



SID is an excellent disk utility, which supports five popular archivers, and also allows you to remove files from an archive.

JARGON BOX

Archive – File containing one or more compressed files

Archiver – Program used to create an archive

Bulletin Board – An electronic 'meeting place' where modem owners can contact using their computer.

CIX – A very popular bulletin board.

Compression – The technique of reducing information in size whilst retaining its exact content.

Compression Ratio – The amount by which a file is reduced in size after compression. A ratio of 2:1 means that it has been halved.

Decompression – The process of restoring a compressed file to its original size and format.

Huffman's algorithm – The original formula used as the basis for most archiving systems.

JPEG – Joint Photographic Executive Group: A special compression technique for pictures that results in savings up to 97%!

LHA – The newest archiver which achieves high rates of compression and works very quickly.

LHArc – The most popular and best known archiver.

LHArca – A user-friendly version of *LHArc* using windows and menus.

Modem – An interface that lets computer owners transmit and receive data via a telephone line.

MSDOS – MicroSoft Disk Operating System: the disk language used by business machines and PCs.

PKAZip – Possibly the most user-friendly archiver of all.

Script – A command or sequence of commands.

Zoo – An older archiver that gives excellent compression rates, but takes a long time to do it.

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blue pages

contents...

The Blues are back with a distinctly new look. We've had a major rethink of these pages over the last couple of months and have radically revamped them to appeal to both the hardcore enthusiast and gamer alike.

So what's new?

For starters, we've introduced a number of new columns. This month sees the start of regular monthly features on DTP, Programming, Education and Comms, and there'll be several others beginning next month, too. Don't worry if you're new to the Amiga, as each column will start off with the basics before moving on to more involved matters. Buyer's Guides, walk-through guides and software charts round off the package, so read and enjoy. . .

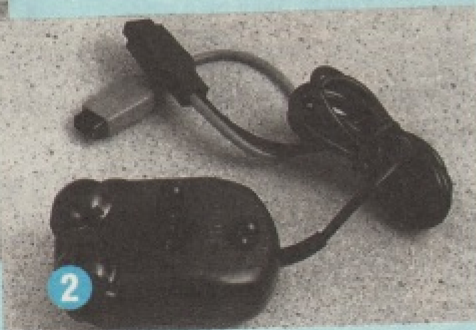
sticky moments

PART 1

There's no such thing as the perfect joystick, but some come closer than others. In the first of a two-part feature, CU put a selection of the finest joysticks through their paces.



1



2



3

Buying a joystick is easy. Buying one that doesn't fall apart or stop working within a week is another matter entirely. Faced with an endless array of rubber-necked wonders, each with its own ergonomic design and outrageous claims of longevity, it's a thankless and costly task choosing which one to pit against the likes of *Project X, Speedball II* or *Rainbow Islands*.

If you're fed up forking out a small fortune each month to replace faulty joysticks, then fear no more! CU's crack team of wagglers have been busy over the last two months putting some of the finest joysticks that money can buy through arduous routines and subjecting them to literally hours and hours of solid play. The result of all this waggling? Probably the most comprehensive joystick reviews ever! To make things easy, we've given each joystick an overall score as well as marks for innovation, durability, ease-of-use, comfort factor, and responsiveness.

1 SURESHOT STANDARD

Sonmax Price: £10.99

The handle's microswitches give an excellent response and, coupled with the stick's self-centralizing system, steel shaft and pistol grip, can't be faulted. It's double-eight figure fits the hand well and the thing even looks the business thanks to a transparent plastic casing.

On the down side, the leaf spring firebutton gives little tactile feedback and is awkward to press for any length of time. Cord length, at just over five feet is a bit on the small side, and the lack of an auto-fire facility is a distinct drawback. It's essentially a hand-held device as there's a lack of suction cups underneath the base of the machine. Instead, the stick is graced with supposedly non-slip rubber pads which slip and slide about a tabletop like Torvill and Dean in their heyday.

VERDICT: Looks the business, but fails to meet expectations.

INNOVATION	81%
DURABILITY	72%
EASE-OF-USE	77%
COMFORT FACTOR	80%
RESPONSIVENESS	72%
OVERALL	**75%**

2 THE BUG

Cheetah Price: £14.99

The Bug certainly lives up to its namesake: it's incredibly tiny and would be an ideal starter stick for a young child. Suitable for either left or right-handed players, the device comes with a five-foot cable and two firebuttons placed at the front of its compact body. These are activated by the player's thumb with the stick's shaft conveniently located towards the centre of the device. The main failing of the stick is its abysmally short shaft which allows little or no grip and, therefore, a subsequent loss of control. If only manufacturers would realise that a knobbly end and long stick are essential ingredients in a successful joystick and not sacrifice such aspects for gimmickry such as this.

VERDICT: Looks cute, but plays like a brick.

INNOVATION	40%
DURABILITY	60%
EASE-OF-USE	30%
COMFORT FACTOR	70%
RESPONSIVENESS	59%
OVERALL	**52%**

3 TORTOISE

Cheetah Price: £19.99

This looks and plays like a joke. Obviously aimed at the preteen age-group, the Tortoise consists of two units: a heavy duty stabilising body and an 'ergonomically' shaped control 'shell'. The hand is supposed to fit smoothly over the shell at the top of which are three fire buttons to stab at. Movement is engineered by rocking the shell from side-to-side and top to bottom, but this proves a cumbersome and ineffective control system which soon becomes tiresome. Also, it's doubtful that small hands will get the most out of this device as they would probably fall short of the firebuttons due to the bulky nature of the shell.

VERDICT: One to avoid!

INNOVATION	90%
DURABILITY	10%
EASE-OF-USE	10%
COMFORT FACTOR	10%
RESPONSIVENESS	10%
OVERALL	**11%**






4 NAVIGATOR

Konix Price: £15.32

Despite its weird design, The Navigator fits the shape of the hand almost perfectly and gives a pistol-like grip. With the firebutton positioned conveniently close to the user's trigger finger, rapid firepower is yours for the taking. Fully-functioning microswitches also mean you can hear and feel every click and movement you make.

My only real criticism, and it's a biggie, is the awful shaft. It's just too tiny and doesn't allow the user to get a good grasp of it during play. Consequently, precise movement isn't really on. Moreover, although the shaft is made of metal, the model under test broke down after only three hours of use. Not a very good recommendation, I'm sure you'll agree.

Cable length is a very good five-and-a-half foot and the autofire mechanism kicks in when the firebutton is held down, ensuring a constant stream of bullets during play.

VERDICT: Strong on ergonomics, weak on playability.

INNOVATION	88%
DURABILITY	45%
EASE-OF-USE	83%
COMFORT FACTOR	88%
RESPONSIVENESS	62%
OVERALL	**58%**

5 CRUISER

Powerplay Price: £10.99

The Cruiser has long been a favourite of mine. These days, the stick has metamorphosed from its sleek matt black beginnings into a multi-coloured machine which boldly mixes pinks, blues and greens in a tasteful display of overstatement.

The basic stick is still very much intact, though, and offers an easy-to-grasp handle coupled with solid construction and a special twist lock at its base which offers three different resistances: loose, medium and stiff. This is probably the stick's best feature, allowing you to alter the resistance to suit the type of game you're playing. For instance, if you fancy a game of *Speedball 2*, a stiff setting will allow you to turn your players on the spot, while flight sims are best played with the joystick set to a loose setting, allowing for gradual movement rather then short, stacatto bursts.

The lead is an acceptable five footer and the base of the machine fits snugly in the palm of the hand. There are also four suction cups at the base of the stick to help affix it to your table-top if you should so require. Two microswitch fire-buttons and directional control provide the icing on the cake.

VERDICT: Overall, a brilliant stick, which stands up well to some serious waggling.

INNOVATION	70%
DURABILITY	87%
EASE-OF-USE	87%
COMFORT FACTOR	78%
RESPONSIVENESS	82%
OVERALL	**85%**

6 SPEED KING

Konix Price: £12.25/11.25

Superficially, this looks cheap and shabby. Even its markings are the result of transfers overlaid on to the moulded plastic of the main body. Aesthetically, it's a non-starter, but once you've summoned the courage to remove the L-shaped contraption from its box, it fits rather nicely in the palm of the hand with the thumb occupying a special grove and the index and middle fingers centred around the firebutton.

During use, the stick gave a very good tactile response and the microswitches worked well. From my initial misgiving, the Speed King quickly became one of my favourite sticks and proved adaptable to any type of game, whether it be a platform jumper or an aircraft sim. At six-foot, the lead was one of the longest we had in for test. Models are available with or without the autofire feature.

VERDICT: Looks aren't everything. Definitely worth a test.

INNOVATION	70%
DURABILITY	85%
EASE-OF-USE	80%
COMFORT FACTOR	90%
RESPONSIVENESS	80%
OVERALL	**82%**

7 CONTROLLER

Quickshot Price: £9.99

Quickshot proudly boast that they've sold more than 20,000,000 joysticks worldwide. Over the years, they've built up a reputation for sturdily-built sticks, each with its own 12 month guarantee, and they've an incredible range of models to suit most tastes and pockets.

Having said that, they've just tarnished their reputation by releasing a completely ridiculous stick. It's both clumsy to use and awkward to hold – the kiss of death in joystick terms. It's double handlebar grip is too small for an average-sized hand, especially when both thumbs are needed to operate the joypad and firebutton positioned towards the centre of the stick. There is a second firebutton, positioned on the underside of the stick and operated by the index finger, but it's in such an awkward position that you'll soon tire of punching the pad.

Due to the lack of microswitches, you don't get such a tactile feedback while the stick's in use, and the four-foot cable length is a bit on the short side. The joypad is also a pain – I've never got used to them, even though I own a Famicom, and much prefer the more traditional joystick control method.

VERDICT: It's solid construction is about the only nice thing that can be said about the Controller.

INNOVATION	80%
DURABILITY	88%
EASE-OF-USE	45%
COMFORT FACTOR	34%
RESPONSIVENESS	46%
OVERALL	**37%**

sticky **moments**





8 PROF 9000 DE LUXE

Euromax £34.95

The first thing that's noticeable is the springy feel of the stick. It has just the right amount of travel for a good bash at virtually any fast-paced arcade game and the fire-button perched on top of the shaft is in easy reach of the thumb. There are also two buttons on the base of the machine, and the left one of these alters the rate of autofire by turning it clockwise or anticlockwise. Strangely, though, the base and stick buttons cannot operate at the same time.

The long thin shaft means you can easily wrap all four fingers around it, but the cord length is a risible four foot long. The shaft's microswitches give a positive feedback to movement, but the leaf spring fire buttons once again prove a disadvantage in measuring performance. It's especially noticeable on shoot 'em ups were you need to constantly monitor your firing rate – with a leaf spring this is almost impossible.

VERDICT: Smart and stylish stick with plenty of manoeuvrability.

INNOVATION	78%
DURABILITY	88%
EASE-OF-USE	89%
COMFORT FACTOR	81%
RESPONSIVENESS	88%
OVERALL	**86%**



9 ZOOMER

Euromax Price: £69.95

STAR RATED

The Zoomer is a specialist stick aimed at flight sim and driving game enthusiasts. Its yoke resembles a steering wheel with both top and bottom bits cut away. It's not small, as its 30cm tall by about the same length width-wise. Fire buttons are located on top of each arm and there's an auto-fire knob on the base of the machine. Four suckers keep everything stable and the cable is a good six-foot long.

I found that the Zoomer greatly enhances the realism of flight simulators and driving games. The handle itself has reasonable sideways rotation but the vertical axis is considerably less mobile. Because the up/down and left/right movements are so different to each other, it overcomes the problem of sensitive joysticks which dive when they should be turning and turn when you want them to climb.

It's not really suitable for the likes of *R-Type* and *Speedball*, but load up *Flight of the Intruder* or *F15* and you'll have a ball. It definitely adds a new dimension when playing these type of games.

VERDICT: Costly, but essential for flight and bike sims.

INNOVATION	96%
DURABILITY	89%
EASE-OF-USE	89%
COMFORT FACTOR	89%
RESPONSIVENESS	93%
OVERALL	**92%**

10 SWITCH JOYSTICK

Gravis Price: £39.99

STAR RATED

A little too big to hold in the hand, this table-top joystick certainly offers a multitude of features. The first thing to notice is the foam-padded pistol grip with built-in firebutton. As well as feeling incredibly comfortable, it also offers a firm grip and moulds itself to your hand.

The stick comes with a very sophisticated tension adjustment system. This allows the user to set the amount of tension or resistance provided by the joystick handle. Ten settings, which range from loose to stiff, ensure that there will be at least one setting which suits your playing style. In addition, the tension adjuster also reduces the travel distance or throw of the stick, making it ideal for flight sims and arcade games alike. Restricted movement allows for faster reactions such as those needed in arcade-orientated games, while the softer settings provide smoother movements suitable for flight simulators and driving games.

Trigger points are automatically set depending on the tension adjustment. When the stick is set at a loose setting, a greater amount of handle deflection is needed before a response is triggered in the game. It's also possible to manually adjust these trigger points for even more controllability. There are also three fire buttons, two located on the base of the unit and one perched on top of the handle. Button selectors at the side of the machine allow the user to independently select each fire button's function, ranging from normal fire and auto fire capabilities to forward and backward movements.

All these features add up to one hell of a joystick. A six-foot lead, solid construction, and a pleasing design help add further to the stick's appeal. Although quite costly, this is worth the investment.

VERDICT: A superior stick with more options than the Stock Market.

INNOVATION	95%
DURABILITY	88%
EASE-OF-USE	85%
COMFORT	85%
RESPONSIVENESS	90%
OVERALL	**92%**

11 STING-RAY

Logic 3 Price: £13.99

When the Sting-Ray joystick was first released, it caused quite a stir, due in no small part to its absurd styling which makes it look like one of those rayguns that Flash Gordon used to bandy about in those crumbly black and white early-morning sci-fi serials. Despite such unfortunate comparisons, or perhaps because of them, the Sting-Ray has gone on to become quite a popular joystick.

It fits the hand in a similar fashion to a revolver with the handle nestling in the palm of the hand and the index-finger ideally placed over the firebutton. On top of the 'barrel' is the joystick's shaft, topped off with a knobbly piece of plastic for the grip. Overall, its design is akin to Konix's Navigator, but the knobbly end to the shaft makes it an altogether more controllable affair. An auto-fire button is also perched atop the machine together with two thruster buttons fixed to each fin. When pressed, these are reputedly meant to make you speed up, but they're placed in such a ridiculous position that it's doubtful whether you'll ever call them into play. A six-foot cable rounds off the package.

VERDICT: Once you've become accustomed to the design, it really is a nice stick. Expect ridicule from friends.

INNOVATION	85%
DURABILITY	73%
EASE-OF-USE	78%
COMFORT FACTOR	80%
RESPONSIVENESS	76%
OVERALL	**79%**





12 SIGMA-RAY

Logic 3 Price: £14.99

This one has the best grip of all the joysticks we tested. The pistol grip fits the contours of the hand beautifully, with both firebuttons within easy reach. There's also a couple more placed at the base of the stick, just for good measure, as well as an auto-fire switch and single-shot option button. Style-wise, this is the pick of the bunch, and in play the stick also excels, proving to have just the right amount of tension for flight sims although not quite so hot for arcade-orientated games.

In-built microswitches ensure a positive feedback and the suction cups allow for table-top play as well as hand-held action. Cord length is a minuscule four foot, but the overall layout of the stick more than compensates for such shortcomings.

VERDICT: Nice looks, solid construction, good value.

INNOVATION	85%
DURABILITY	89%
EASY-OF-USE	85%
COMFORT FACTOR	92%
RESPONSIVENESS	82%
OVERALL	**89%**

13 THE ULTIMATE

Euromax Price:£34.95

When we reviewed this in October last year, Dave Kelsey reportedly raved about the machine's 'superb styling and rugged construction'. I can only assume he was the victim of some hallucinogenic drug, as my thoughts couldn't be more different. Obviously not a hand-held model, this table-top device is incredibly ugly and cumbersome. Admittedly, its spherical hand-grip proves to be a worthy feature when compared to some of the other sticks we've reviewed this month, but its unresponsive fire buttons give the machine a decidedly dull feel.

Perhaps its best feature is a variable-speed autofire button which can spew out a super-fast hail of shots at its top speed. Unfortunately, the machine also has its fair share of minus points and the unresponsive helm makes arcade games a positive chore. Although it has a whopping six-and-a-half foot lead (mistakenly put at 10 foot on the packaging!), the rest of the machine doesn't live up to expectations. I found it slow to respond to tugs on the joystick shaft and rather too bulky for its own good.

VERDICT: If you want a table-top joystick, look elsewhere.

INNOVATION	50%
DURABILITY	70%
EASE-OF-USE	70%
COMFORT FACTOR	62%
RESPONSIVENESS	55%
OVERALL	**57%**

14 SUPERPRO ZIP STIK

Sonmax Price: £14.99/13.99

STAR RATED

This is the stick I've been using for the last year and it's still going strong. Two firebuttons placed at either side of the unit mean that both right and left-handed players can use it, and the solid construction means the stick can put up with as much wiggling as you can possible throw at it. Even Ocean's aging *Daley Thompson's Decathlon* would prove no problem to a stick of this stature.

The stick's long shaft and knobbly top prove invaluable in overall control and helps afford a nice, comfortable grip. Micro-switched throughout, every tug translates in a nice, tight response and an auto-fire feature provides rapid bursts or a continuous stream of bullets. From *Speedball* to *R-Type*, from *Project X* to the *Addams Family*, the Zip Stik handled all-comers.

About the only criticism that can be levied at the stick is its paltry lead of just over five foot. But that's nit-picking – play and enjoy.

VERDICT: An essential purchase. The undisputed King of the sticks.

INNOVATION	79%
DURABILITY	91%
EASE-OF-USE	92%
COMFORT FACTOR	92%
RESPONSIVENESS	96%
OVERALL	**95%**

15 THE ARCADE

Euromax Price: £19.95

Another firm favourite in the CU offices, The Arcade has proved remarkably resilient to more than a year's worth of constant use. The fact that it has survived such duress is a testament to its sturdy construction and solid design.

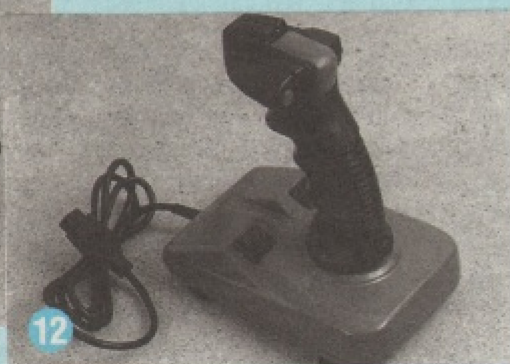
What you get for your money is a pretty basic stick with one firebutton and a long shaft with ball-handle. It might not be much to look at, but it plays superbly well and, if it wasn't for the leaf spring firebutton, would be one of the best sticks available. The lack of options comes as a welcome relief as it seems to be the fashion these days to incorporate as many unessential gimmicks as possible merely to artificially bump up the price.

The back-to-basics approach is to be widely applauded and the matt black appearance of the machine, together with its triangle design, gives it a certain style all its own.

VERDICT: Tough, resilient and very manoeuvrable.

INNOVATION	60%
DURABILITY	89%
EASE-OF-USE	89%
COMFORT FACTOR	84%
RESPONSIVENESS	87%
OVERALL	**86%**





NEXT MONTH

In the second half of this feature, we'll be reviewing yet another 15 sticks that have had to endure a tour of duty in the CU offices. We'll also be announcing the winner of the CU AMIGA 'Joystick of the Year' award. So join us next month for another spot of waggling. . .

BACKCHAT

COMMODORE KICKED

Am I the only person who hasn't fallen for Commodore's plentiful hyperbole? All that crap about the 'success of the CDTV' and non-existent compatibility problems of the A500+ – who are they trying to kid! The CDTV has got to be the biggest pile of rubbish I've seen. I'm fortunate enough to work in a computer shop and, as a result, get to see all the latest software and hardware releases in detail - and if ever a piece of kit was to be labelled a Dodo, it's the CDTV. OK, so the software is to blame as none of it is really up to the potential of the machine, but even so the unit is overpriced and pretty much redundant. The idea of the CD medium is an excellent one, but as Commodore don't seem that worried that the software currently available is tripe, it will be their own fault when it turns its toes up. And when they finally get the add-on drive out, well, do they really think that all of a suddenly everyone will support it? I don't think so...

As for the 500+ fiasco, this seems rather similar to the furore that surrounded the release of the 128K Spectrum a few years back. 'Complete compatibility', the Sinclair ads shouted. 'Rubbish' claimed poor old Joe Public. I bet Commodore laughed their socks off when this happened – but it's funny how they are keen to play down the current incompatibility. Apparently, there are a mere tens games which won't run on the new machine – yeah, only because they've all been updated for the machine's launch. But, even so, there's dozens of games which still won't work. In the Amiga, Commodore have an excellent machine – and there's more than enough people out there willing to support it. All I ask is that they bear the public in mind more often – after all, we put them where they are today...

Name and Address Supplied

INCENSED LICENCE...

In reply to Milton Andrew letter regarding improvement in game licensing – what complete rubbish! The computer game arena has now got to the stage where the lack of imagination in design teams means that film or TV adaptations fall into two distinct groups. I'm not talking about good and bad, but cutesy or multi-level. If Ocean, U.S. Gold or whoever aren't ripping off *Robocod* in a totally unrelated game, they simply take a few scenes and turn the game into a puzzlers, a blaster, and a platform game. Who knows what will happen when The Waltons is farmed out for licence. I can imagine the advert now: 'See Jim-Bob leap through the air, squashing the developers who want to pull down Pa's workshop with his backside. Gasp as Mary-Ellen drives her push bike up a vertically-scrolling stage so that she can buy some flowers for her Mom. Work out the tricky puzzle surrounding why every episode is the same...' Don't laugh, it could happen! Why not, after all *The Godfather* turned into a bland shoot 'em up and *The Addams Family* seem to be Mario's long-lost cousins from what I've seen.

Only one licence has tried anything new, and that is Ocean's *Robocop III* – it even beat the film with its release date! Unless something happens soon, people like Dan Slingsby, and the two Steves (Merrett and Keen), will be writing 'not another cutesy/bitty licence', and the day that happens is the day I sell my Amiga and buy a Megadrive before it turns into one.

Jackie Mimms, London

It's this kind of letter that makes Backchat worthwhile. I can see a little development team's eye lighting up right now at the thought of your proposals for The Waltons game. Still, don't be too harsh on the cutesy games as they are still very playable, regardless of how well they tie in – although I suppose, on reflection, that does make the over-priced licence a little redundant. However, on the side of Ocean, U.S. Gold and Co., they are trying to add variety, as witnessed in *Robo III*. And Gremlin's *Plan 9* has also taken a different route, so don't sell up just yet...

IMPORT-ANT?

I've noticed in recent issues of CU that a lot of your reviews are of imported utilities. The most recent example of this was your Turning Japanese review. OK, so we can order these from the overseas companies, but it's a costly and time-consuming business. Is it possible to organise ways for us to get hold of the packages more easily? If not, how about reviewing them when they are officially available?

Ian Glynn, Southampton

Most of the imports we review are already available in Britain. If there's anything you're interested in, then ring around the assorted mail order people or visit your local software emporium and ask them to order it for you.

SOUND INDEED

Many thanks for the April issue's music feature. It contained everything I needed to know about this potential minefield. However, what I would have liked to have seen was a piece on famous pop people who use the Amiga for sound. I know the ST is used more because of its MIDI capabilities, but apparently the Amiga's flexibility is starting to win it more fans. So how about a list of such people?

Darren Vincent, Glasgow

We were going to incorporate such a list into the feature, but the truth of the matter is that very few musicians actually use the Amiga. Whilst the likes of Julia Fordham, The KLF, and Imagination (remember them?) use the ST, we could



FULL GAME PLEA

Who do decided that full-price games can't go on disks? I'm currently unemployed, and have been for eighteen months. Consequently, I can't afford to buy all that many games and whilst I buy as much budget as I can (hoorah for Kixx and The Hit Squad), I particularly liked the trend of giving away free games on magazines' cover disks. OK, so they weren't exactly World-shattering in terms of quality (need I mention *Human killing Machine* and *Army Moves*), but occasionally the odd gem turns up. However, someone somewhere has decreed that full-price games no longer have a place on a coverdisk. Why? What harm were they doing? Everyone I know used to buy them for the games, and, adding insult to injury, there now seem to be full utilities appearing on the disks instead. This smacks of double standards as it is simply bending rather than breaking their laws. So, is there any chance of a full game on your disk again - I certainly hope so...

Neil Benson, Surrey

Personally, we are against full-price games AND utilities on the disk. Yes, we know that *Sculpt 4D Junior* and *Powerpacker 3* are gracing this month's disk, but the main reason they are there is to compete with the other magazines which are giving away utilities. We have to do this in order to compete, but we feel that giving away a full piece of software cheapens its worth slightly – after all, someone slogged their guts out to release it in the first place, and then it's given away. Another thing is: just how many of the given packages are actually useful to you? After all, there's only so many who will use a sampler or word processor, and what about the rest? As long as the daft competition and rivalry between magazines and their disk content continues, then CU will be obliged to compete – either that or look like an unworthy rival. We are by no means an inferior magazine and our sales prove this, but because someone got it into their head that they ought to give away a utility or game to bolster their sales, editorial content is no longer seen as the ultimate sales point. A pity really...

GOT SOMETHIN' TO SAY? CU AMIGA is the country's fastest-growing magazine, and therefore the premier forum to air your views on anything connected with the Amiga scene. Your comments can make a difference so don't be indifferent, drop us a line today.

only come up with Snap using the Amiga. In addition, Snap's usage of the machine is very tenuous, and we only have Demonware's word to go on.

WHAT A PIG...

I've seen it all now. I was flicking through my April copy of CU having read the bulk of it, and came across your blue pages section. In my search for Q&A I stumbled across an ad page and was horrified by what I saw. Next to the usual classified ads and 0839 computer-related phone lines in Sell Out, there's a picture of a woman sitting on a Pig's lap with the title 'Confession Line' above it. Quite what relevance these have to anything to do with computers is beyond me. Do you really think that the kids who buy your magazine should be encouraged to ring up and find out the story behind the sketch? Come on guys, give us a break and drop these childish lines. They don't exactly bolster your 'adult' image do they?

James Corwin, Dudley

Hmmm, we can't seem to get Steve Keen off the phone to them...

RPG BIAS?

There seems to be more and more RPGs appearing in your magazine these days. At one point, adventure fans were lucky if they got a page dedicated to their favourite genre, but these days they seem to be outweighing arcade games. I'm not complaining, but it seems that too many arcade games seem to be getting left out of your pages in favour of the RPGs. For instance, past issues have seen massive reviews of *Dark Crypt*, *Castles*, *Eye Of The Beholder*, *Shadowlands*, and *Monkey Island*, whilst you seem to forget the likes of *Bonanza Brothers*, *Big Run*, and *Darkman*. After all, if you had told me just how bad *Darkman* and *Big Run* were, I would never have bought them.

So what's the reason for this new adventure fad, then? Are you abandoning us arcade fans as you get more and more technical? I hope not, as your reviews are easily the one I agree with the most. So come on, give us some more arcade exclusives.

Peter Glains, Wigan

It's not a conscious decision, but we do feel that as we are limited on space, we have to be selective in what we review – after all, there is only so much we can write in a month! The reason we ignored *Bonanza* and *Darkman* is that we felt they didn't warrant mentioning (although most magazines seem to think that *Bonanza* is the best thing since Fruit'n'Fibre – strange chaps...). As a rule - but obviously this isn't always the case – if we don't cover a game, it's not worth covering. However, if you're still interested in a title we may have missed, then go to the shop and try it before you buy it – it's saves a lot of heartache and money.

BASIC MATHEMATICS

What on Earth was the *Mathvision* review about! Now I'm no expert on fractals and Mandelbrots (or whatever they're called), but it strikes me that they serve no other purpose than to look weird. I've been through your *Mathvision* review at least four times now, and still can't work out what Earthly use it has. Also, just how practical is a package which the reviewer freely admits can take hours to display a picture? If you ask me, *Mathvision* is a complete waste of time, and it didn't deserve the three pages you gave it. Especially, when two hard drives were crammed into single page later in the issue. In future, I'd much rather you left the fractal stuff to the acid-head Hippies who appreciate it – preferably in another mag...

John Bassett, Lincoln

Blimey, keep your hair on! We try to cater for all tastes in CU, and as fractals are starting to take off in a big way it's obvious that we have a responsibility to cover any new advances – that way we can criticise them if they are indeed useless and unwieldy. This was the case with the *Mathvision* review. Yes, it does look good, but, as we said many times, what good is it? I'm sure fractal fans will argue with us, and if that's the case, they know the address...

SCREEN OF THE MONTH! PAH!

I've been reading CU for over two years, and it has grown as I have from a games-only mag to an all-round interest in the Amiga. However, whilst everything about the mag interests me (although I'm left a bit bemused by some areas), there is one area that really lets your magazine down – The Screen Of The Month. Who picks these? Stevie Wonder, by the looks of things. Admittedly, April's piccy of the Fish was good, but some of the pictures have been no better than a seven-year-old's first attempts at using crayons. There was one in particular which stuck in the mind: it was a picture of a tree drawn in grey, with a grey backdrop, and numerous other shades of grey. Why did this win? Was it the only entry you received? Anyway, whoever it is that selects them, shooting's too good for 'em.

Dean Melrose, Glamorgan

If I were you Dean, I'd sue them. Your charm school, that is...

SHOWING OUT

I read with interest the letter from the guy who said 'get down to a computer show if you want to get loads of kit cheap.' Yeah, that's all very well, but why is it whenever I go to a computer show I spend hours queuing (normally in the rain), and, by the time, I get into the hall or arena, it's packed to the gills with literally thousands of equally fed up people. There's virtually no way of getting to the assorted stands or stopping to have a look at what bargains are on offer, and if I so much as pause to tie my lace up, I'm either trampled to death or swept along like a drowning bit-part actor in Baywatch (I just wish there was someone blonde there to rescue me!). So what's the solution? Is there a way I can get past the massing crowds and get my freshly-aquired copy of *Robocop III* home in one piece? If not, it would make me feel better to know that I may see you lot in the queue, too!

Michael Gingold, Canterbury

Nope, you've got absolutely no chance of seeing us in the crowd as we're fortunate enough to be given Exhibitor passes. If you desire one of these much sought-after goodies, just book a stand and you're away! But seriously, if the queues are your main problem, most shows can supply tickets in advance which save you from the dreaded masses. You're still going to get hassled and bumped inside, but if you have a ticket AND turn up as soon as the show opens, you'll get an hour or so before the rest squeeze in. There are always ads for forthcoming shows, and ticket details are shown at the bootm. So simply send a cheque and – voila! you're away...



A PIRATE RANTS

Once again, you're another mag that preaches on and on about how naughty we pirates are.' Tut, tut, slap their wrist, what naughty people' – you magazines really make me sick. The reason I pirate games is simply because I can. I'm not going to pay thirty quid for, say, *Populous II* if all I have to do is get a mate to run me off a copy – I've got better things to do with my money. I don't even agree with the so-called hackers who say 'we only do it because games are so dear, if they we're cheaper I'd buy more.' Rubbish, my collection has nearly every game available on the Amiga in it – budget releases included. After all, even if I save seven or eight quid, it's still more for me. I had *Robocop III* before it was in the shops, I had *Rainbow Islands* before Ocean got it from Microprose. You name it, I've got it.

The argument that people like Ocean and Microprose will go under because of people like me is complete crap. I started with an Atari 800XL and all my games were copied then – Microprose ones included. And when I updated to the ST, I carried on copying. What I'm saying is that piracy obviously doesn't harm these companies as they would have gone under by now. I'm sure you won't agree and will rave on about 'what a bad lad I am', but that will stop piracy about as much as Ocean's *Robocop III* dongle!

A. Nonymous, No Fixed Abode

A. Nonymous – A. Pillock, more like! You're about original as you are clevcr. You state that you've been copying games since you've owned an Atari. What are you after a medal? The main reason the Atari 8-bits failed was because of the lack of software available for them – why? Because people copied it all the time. So now tell us that it doesn't damage the inductry. By printing your letter we hope we've inflated your pathetic ego – and shown others what a parasite you are...

WRITE TO CU, 30-32 FARRINGDON LANE, LONDON, EC1R 3AU

get organised

When it comes to directory utilities, SID is among the best available. Mat Broomfield guides you through its inner workings.



EASY DOS IT...

SID helps simplify and speed up the operation of frequently-used AmigaDOS commands such as Copy and Edit.

All but the simplest AmigaDOS routines must be operated from CLI or Shell. Not only does this involve typing, you also have to remember the format of the many commands. To combat this, *SID* uses an icon-driven display, with all the main commands accessible at the click of a mouse button.

MENU MASTER

Once the program has loaded, the screen is split into five distinct areas. The largest two display the directories of two drives, while the rest display details of menu bars, path fields, a command palette, and an extended selection of functions gracing the bottom area of the screen. The most important parts, though, are the directory windows and the command palette. These offer control of most of *SID*'s functions, and does away with the finicky typing usually involved in such operations.

Using these options, *SID* can perform many useful functions. As well as moving files from disk to disk, it can be used to edit files or examine them. To get started, place a disk in the drive, and click on one of the command palette's device buttons. These allow the user to view the contents of any attached Amiga drive, including Hard Drives and the RAM Disk. On a single drive machine, though, it will be automatically configured to run from DF0:.

Beneath each of the directory windows, you'll notice that the device names are repeated. This means you can view the directories of two disks simultaneously.

On selecting your drive, after a few seconds loading, the current window will list the disk's contents, and a scroll bar will allow you to move up and down the list if there are lots of files. As the names appear, they are displayed in two different colours. Any name with a number following them, are the individual files, and the numbers denote their size, whilst shaded names are further directories, which must be opened before their contents can be viewed.

EDITED HIGHLIGHTS

On clicking on one of the listed files, its colours will be inverted so that it is contained within a lighter bar. The file is now selected and is ready for whatever operations you deem necessary. For instance, if it's a text file, clicking on the Read option will enable you to do just that, and, similarly, picture files can also be viewed.

Some functions (such as copy) can't be performed when only one directory is loaded, so another directory must be loaded with the secondary device button under the currently empty window. As the new directory loads, you'll notice the big arrow between the two device bars flips to point in the opposite direction. This is called the flow arrow, and shows the direction that information will travel when dual directory options are invoked. As only one directory window is active at a time, the flow arrow always points towards the most recently activated drive. To alter this, just click anywhere within the other window using the right mouse button.

Once you have two directories listed, you are ready to use the Copy and Move functions. Simply highlight the files to be copied or moved, and click on the appropriate button in the command palette. Whenever you select a file, its window becomes current, and the copy and move commands will transfer data to the other directory.

SPEEDY GONZALEZ

There are a number of ways that you can speed up the process of calling a directory list. If you double-click on a directory name (within a directory window) *SID* will automatically replace the current listing with the contents of that directory. You can also quickly recall the previous listing by moving the cursor to the extreme edge of the current directory window, and clicking the left mouse button.

Above the flow arrow, you'll notice three buttons each containing smaller arrows, (< <> >). These let you copy the directory listings from one window, directly into the other. For example, if you click on the right-facing arrow (>), the contents of the left-hand window will be copied to the other. The double arrow in the middle, simply swaps the contents of the two windows. Another way of calling up a directory, is by clicking inside the Path Field, and typing the name of the directory you want to view, (having made sure that you deleted anything that was already there).

As mentioned earlier, the numbers following a file name inform you of its size. However, you can find out other useful information, too - for instance, what kind of file they are or when they were created. To do this, put the cursor anywhere inside the extended function bar at the bottom of the screen and click the left mouse button. You'll see a fresh selection of six options, again duplicated for each window. Although the default option is Size, you can alter it by clicking on one of the other choices.

If you're multi-tasking *SID* with other programs, you'll be interested to know that it can be switched on and off without constantly reloading it. Simply click Shrink in the menu bar at the top of the screen, and it will be reduced to a tiny easily-ignored bar while you use your other programs. To reactivate it, click Expand to restore it to its normal size.

Next month we'll be looking at the configuration file and finding out how you can customise *SID* for your exact requirements.

ADDRESS BOOK

You can buy SID from any decent PD retailer. I got mine courtesy of PD Soft, Bryant Avenue, Southend-on-Sea, Essex, SS1 2YD. Price: 2.50 (including P&P)

COMMAND SUMMARY

All of the options in the command palette will only work with highlighted files within the CURRENTLY ACTIVATED WINDOW

PRINT Prints the selected file/s. Only works with ASCII (text) files.
EDIT Loads the selected file/s into a text editor ready for editing.
XEDIT Loads the selected file/s into a hex editor ready for hex editing.
VIEW Displays the selected IFF screen/s. **READ** Displays the selected text file/s.
XREAD Displays the selected files in HEX and ASCII. **HEAR** Plays the selected IFF sample/s.
MAKEDIR Calls up a requester allowing you to name a directory to be created in the active directory window. **COMMENT** Lets you attach a comment to the selected file/s.
RUN Runs the selected file/s. If the files require an argument, click on the REQ button before selecting this option. **EXECUTE** Uses the AmigaDOS Execute command to execute the selected batch file/s.
OTHER A blank button for you to program.
COPY Copies the selected file/s in the direction indicated by the flow arrow.
MOVE Copies a file from the active directory to the inactive one, then deletes it from the source.
DUP Duplicates a file in the active directory letting you specify the name of the duplicate.
RENAME Calls up a requester letting you rename the selected file/s.
DELETE Erases the selected file/s from the active device.
DISK Displays information about the device from which the active directory was loaded.
PROTECT Calls up a requester letting you change the protection status of the selected file/s.
SET Lets you specify which protection bits will be considered by AmigaDOS.
INFO Gives more detailed info about the selected file/s.
ALL Selects all files within the active directory window.
NONE Deselects all highlighted entries in the active directory window.
PATTERN Lets you enter a pattern to highlight entries in the active directory window. For example, if you enter #?.doc, all entries that end in .doc will be highlighted.
BYTES Displays the total size in bytes of all selected files, including directories and their contents.
MEMORY Displays information about available memory. **TIME** Displays the time.
ARC Archives all selected files using the archive format specified in the Flags menu.
UNARC Unarchives all selected files using the archive format specified in the Flags menu.
LISTARC Display all files within the select archive.

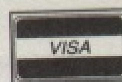
SIDDING PRETTY

SID was written by Florida-based Tim Martin, who started work on it in 1988. Since its conception, it's undergone a development process to rival that of any commercial product. All the hard work has paid off, though, as it has resulted in a program considered by many to be the finest and most reliable directory utility available, Shareware or otherwise. A commercial release (Version 2.0) has just arrived, and will be offered to registered users first. So how do you register? The answer is simply one of paying the tiny Shareware fee. Shareware is a wonderful idea that lets you try before you buy. If you like the product, send the fee requested by the author. If you only like it a little, send less, and if you hate it, simply erase it and you've lost nothing!

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If your after a powerful, but not to difficult to use DataBase then your after this. It's extremely easy to use, as the name sugests.

FREE COPY V1.4

If your fed up with having to type in pass words in on all our favourite games, well no theres no need too. With this superb copier it will take out Pass-word protection.

MESSY SID 2

Fed up with all the hassle of transfering PC files to the Amiga, well now you can do it with ease, Messy Sid 2 can upload as well as download Amiga or PC files back and forth from one machine to the other.

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With Audio Animation Studion you can have animation aswell as syncronised sound FX and speech, Definately a disk for the creative type.

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Land Builder can create amazing looking pictures of Islands and sea etc, you just tell it what sort of view you want, and hit GO.

NCOMM V1.921

If you've got a modem then you should have this disk, it not only contains the best PD communications package available, but a whole host of additional archiving files as well.

D-COPY V2.0

This is the latest version of the excellent D-MOB copier, it's very fast and it couldn't be easier to use. Hundreds of features including Format, Nibble copy, Dos copy+ and the option to verify your copy.

UNI COPY V1.0

A great new multi-tasking multiple drive copier, that can backup from 1 drive to upto 3 Destination disks, it features various copy modes including Nibble and Doss copy.

TITANICS CRUNCHER V1.2

Titanics have excelled themselves once more with this latest version of their brilliant and easy to use file cruncher. With most File compacters once you've cruched a peice of software and want to run it, you have to wait for it to decrunch, but with this software your programs will decrunch as they load.

SPECTRUM EMULATOR V1.2

Ever wanted to run all your old 48K Spectrum software on the Amiga? Well now you can with this superb Emulator disk. Not A500+.

PROFESSIONAL D-COPY V3.0

Fed up with trying to backup software with the Workbench? Well now there's no need to, because with this great utility you can backup software you've never copied before, it's even better than X-copy! Not A500+

MED V3.2

The latest version of the best PD Music sequencer available. Fully compatible with the A500+, and it supports MIDI as well, easy to use, and instructions are easy to use.

TYPING TUTOR

If you want to improve your typing skills, then look no further than this, TYPING TUTOR will enhance your speed at the keyboard and allow you to greatly improve your knowledge of the keyboard layout.

SUPER LOCK V1.01

Super Lock allows you to lock either your Mouse or Keyboard, thus stopping any-one from using you machine. You can also stop other people from accessing your drive. By simply inputing a predetermined Password your system will be back to normal.

COMPUTING DIAGNOSTICS V9.1

If your having minor problems with your Amiga, then this disk may be of use, it will test your mouse, keyboard, sound chips, graphics chips, and also your disk drive, and give you on-screen information on what it finds.

A64 PACKAGE V2.0

This is the latest version of the most powerful Commodore 64 emulator available for the Amiga. You can even load and save C64 games, and programs in basic.

BOOTX V4.4

This is the latest and most powerful Virus dector/killer available, it can search out and kill over 220 different Viruses including file viruses and the Saddam Virus which attacks Disk Vaildators.

VIDEO DAT V1.2

If your Video collection is in a bit of a state and you can never find your favourite film then VIDEO DAT is what your after, It can catalogue hundreds of videos that can be found and sorted in any order.

DIRECTORY WORK V1.31

Dir work is a great new CLI replacement that allows you to copy/rename Delete etc any file without using CLI, simply click on the file you wish to copy select a destination disk, and hit go. Essential for the beginner.

VIRUS CHECKER V6.00

If you want to be sure you don't introduce a virus onto any of your disks then get hold of a copy of this great Virus killer that will run in the back of your workbench, checking any disks thats put in the drive as well as the memory. Version 6 can detect over 150 Viruses, inc file viruses.

TEXT ENGINE V3.0

Available now, the latest version of the best WordProcessor around. Features include: Spell Check, Cut, Paste, Tabs, etc.........

WINDOWS BENCH V1.0

If your sick of the look of your Workbench 1.3, then get a hold of this super disk, it will transform your old workbench into something a bit more upto something a bit more upto date, not only that but it also contains a load of excellent utilities. Not A500+

AMIBACK V1.8

AmiBack is a profesional looking Hard Disk Backup system, that will transfer all your DATA from your Hard disk to numerous floppy disks.

RSI DEMO MAKER V2.0

A great new version of THE BEST Demo creator available. Features a host of new and enhanced options, including exploding fonts, and full Genlock support for Video Titling. NOT A500+

FIX DISK V1.2

Disk in drive DFO: corrupt, read/write erroron DF1: etc, etc, if you've ever had this sort of message appear when you've inserted one of your disks into your drive, then you'll know how frustrated you can get when you can't get back all your valuable data. Well with fix Disk your problems are over, it can repair your currupt disks, and save any savable information, a must for any-one.

A full catalogue disk is available for £1.00, but is sent FREE with all orders.

BADBOYZ LICENCEWARE

BAD001 X-SYSTEM. Is a superb platform come shootem up game.
BAD002 NORRIS. has been highly praised for it's cute GFX and great play, it's a hard job controlling Norris about but a huge amount of fun.
BAD003 PHASE 2. Is a great new horizontal shoot-em up featuring 3 layers of parallax scrolling and 5 in game tunes.
BAD004 DARK THINGS. Is written by the author of Phase 2, and features the same high standard of graphics & sound. Highly recommended as one of the best Licence-ware platform games available.
BAD005 TRON 2000. Is highly addictive Light Cycles clone, 2 Players only.

All the above titles are only £3.00 each

PLAY'n'RAVE

1 Meg

Do you wish you could produce bigger Molules in Sound-Tracker? Well now you can..... With Sound-tractor on a standard Amiga you can only produce Modules of around 350K, but with Play'n'Rave you can produce a TRAK upto 12meg long on a standard 512K Amiga. PLAY'n'RAVE does this by joining Modules together to in effect produce one big Module. Thus allowing long and varied Traks.
PLAY'n'RAVE comes with a TRAK player so you can produce brilliant PD music disks that will play continaslly for hours without a break.

PLAY'n'RAVE is currently only available from us for only £7.99 inc

PD DISKS PER DISK

1 Single Disk	£3.00	2 - 5 PD Disks	£2.00
6 - 10 PD Disks	£1.75	11 - 20 PD Disks	£1.50
21 - 99 PD Disks	£1.25	100 + PD Disks	£1.00

Deja Vu Software	£3.50
BAD BOYZ Licenceware	£3.00
FISH Disks	£1.00
Power Games	£2.99
JNK Disks	69p each
Postage in UK	FREE

+ = A500+ Compatible, - = Not A500+ Compatible. A note to all A500+ owners, some disks contain more than one program, and on a large compilation not all programs are guaranteed to be compatible.

ORDERING DETAILS

Orders can be placed either through the post, with payment being made by Cheque, Postal Order, or Credit Card. Payable to VIRUS FREE PD
You can also Phone or fax your order to us, giving your credit card details etc.
Our Phone lines are open 9.30am-5.30pm Monday to Saturday. No Answer Phone.
Most orders are despatched within 24 hours, by first class post.
Postage is included on all UK orders.
Oversea's orders please add 25p per title ordered.

100% Amiga

hard drivin'

If you're one of the growing masses who have got a Hard Drive, you'll be wanting to fill it. CU takes a look at some of the better Hard Drive-installable games currently available.

With the arrival of the Amiga Plus and its 1Mb of memory, many companies are beginning to design their games expressly with expanded machines in mind. Better graphics and more realistic sound are just two of the advantages when taking on the extra 512k, which most companies are starting to regard as standard. You might think that adjusting the size and detail of games can only be a good thing, but with this increase in memory and quality comes a price.

Whilst some floppy users are content to struggle with and lengthy access times, an ever-increasing number are turning to hard drives to speed the gaming process up. However, due to software houses' fears of piracy, many refuse to make their products installable, leaving many angry purchasers with an expensive mistake on their hands. It's with these people in mind that we've put together this guide to just a few newsworthy, and not so newsworthy products, for you to cast your hardened eyes over. There's something here for everyone and, rest assured, all are hard drive compatible.

BIRDS OF PREY

Electronic Arts £34.99 Flight Simulation

One of the finest flight sims ever. Featuring dozens of planes, including the B-2 Stealth Bomber, Boeing 747 and the Hercules transport. Some of the more nippy planes are a little hard to control. However, all's not lost as a useful auto-pilot system can fly you to the game's many missions before you take over.

BLACK CRYPT

Electronic Arts £25.99 RPG

Huge levels, excellent graphics, atmospheric music and sound – at last, there's an adventure that rivals *Eye Of The Beholder* for the RPG crown. The animation leaves a little to be desired and there are only two save game positions, but apart from these bug bears you can't fault this game in any respect. Constant progression is assured due to the ideal level of difficulty that's been set. A great game that'll take up many a hard drive.

CADAVER

Imageworks £24.99 Arcade/Adventure

Pays homage to the outstanding isometric 3D games produced by Ultimate in the 'Golden Age' of arcade/adventures. The Bitmap Brothers pack *Cadaver*'s five levels with quality puzzles and graphics. If only they'd added a bit more action, we would have seen a classic.

CRUISE FOR A CORPSE

Delphine/US Gold £25.99 Adventure

Gripping stuff from the Parisian software developer. An Agatha Christie-style murder mystery using the fantastic Cinematique system. Has been criticised for being a bit slow, but a hard drive goes a long way to restoring anyone's faith in this product. The clues that must be gathered by the French detective Raol, are quite difficult to discover at first. Once you get into the swing of things, though, progression is a lot swifter, and you can experience some of that famous French atmosphere with some brilliantly-executed animation scenes to rival *Another World*. *Cruise* is full of flair, especially the black and white 'flash-back' sequences.

DEATHBRINGER

Empire £25.99 Arcade Beat 'Em Up

Truly stunning graphics with over 36 levels of parallax scrolling. The 30 levels that make up *Deathbringer*'s world are superb to look at, with colourful and detailed backdrops and a whole array of monsters, including guardians who occupy up to three quarters of the screen. The game is badly let down by its limited control over the barbarian warrior. This proves to be more frustrating than the game is entertaining.

ELVIRA: *MISTRESS OF THE DARK*

Accolade £29.99 Graphic Adventure

An excellent adventure which utilises gory full-screen graphics and an original plot. The fabled female puts in a few appearances during the game, so adolescents and true red-blooded men won't be disappointed. Much better than the sequel, simply because it's much more fun.

FLAMES OF FREEDOM

Microprose £34.99 Arcade/Strategy

Effectively *Midwinter 2*. From the original game's author, Mike Singleton, *Flames Of Freedom* is a technically awesome 3D adventure, with 1,000 intelligent characters to meet, dozens of weapons and vehicles to use, and 1,000,000 square miles of terrain to explore. This is the nearest a computer game has come to a James Bond Movie (depending on your opinion of the spy's adventures!). One of the best sequels ever.

4D BOXING

Mindscape £24.99 Sports Sim

The programmers have thrown everything they've got into *4D Boxing*'s impressive polygon graphics. The boxers look like those square-jawed computer removal men in Dire Straits' Money For Nothing video. The fourth dimension is supposed to represent the realism obtained when playing the game, by the way. The simulation is very comprehensive and enhanced by the number of stats provided. Instant replays can be obtained from a number of angles, too. There are 40 boxers to fight, but a promising game is let down by the lack of visible damage you can see inflicted on your opponent. However, it's still the best recreation of the sport on the home computer to-date,

4D SPORTS DRIVING

Mindscape £25.99 Sports Sim

Immediately comparable to *Stunt Car Racer*, Mindscape's version is not quite as good. Race against the clock or one of six opponents who range in skills and tactics from Bernie Rubber to Skid Vicious. The racing conditions are just as diverse, as you can go off-road racing or spin the loops and jumps on tarmac. Certain sections will really test your skills as you have to top 100 mph whilst spinning 360 degrees through the air to clear a ramp. The courses have been guaged perfectly and there's a good balance between stunts and racing to make the game both interesting and a challenge. A replay facility lets you see the action again, and can be used to pick up tips. Rather than contesting with the aforementioned *Stunt Car Racer* for top billing, this is a welcome alternative.

GRAND PRIX

Microprose £34.99 Race Driving Sim

Hot racing action from Geoff Crammond, the author of the award-winning *Stunt Car Racer*. Realistic, fast-moving and excellent 3D graphics with up to 16 tracks for you to choose from.

HARE RAISING HAVOC

Infogrames £25.99 Animated Adventure

A hard drive is an absolute necessity to have if you want to play this game – it's probably the first hard drive-only game, and a very brave gamble. Once you've got into the game it's easy to see why. Cartoon graphics and digitised speech has been directly lifted from the film Who Framed Roger Rabbit and the back-

grounds look as though they've been crafted in Disney's Hollywood-based Animation Studio. There are hundreds of frames of animation and more objects to be found to interact with than inside an Anne Summers boutique!

LORD OF THE RINGS

Electronic Arts/Interplay £25.99 RPG

A fabulous interpretation of J.R.R. Tolkein's master-work with point and click icon interface and a series of graphic and text screens to push the fantasy forward. Anyone who's found themselves immersed in the Tolkein fantasy world before, will find this the closest they've come to stepping into the little folks' shoes.

MEGATRAVELLER 1

Paragon/Empire £29.99 RPG

An entertaining and totally absorbing adventure experience, based around the popular RPG book. The game contains a huge amount of puzzles, some of which will take you days to solve. However, be warned, *Megatraveller 1* is not for the foolish and definitely not for the beginner, so only battle-scarred RPG veterans need apply.

MIG 29 SUPER FULCRUM

Domark £29.99 Flight Sim

Ex-British Aerospace flight simulator team, Simis, created something for all you techie desk-top pilots. A first-rate package which comes complete with a 128-page colour booklet full of information and photographs of the respected Soviet fighter. However, *Fulcrum* still needs an injection of energy for its lacking gameplay. A few more missions wouldn't have gone amiss, either.

PIPEMANIA

Empire £24.99 Puzzle

The crazy puzzle game that's seen dozens of imitators on the Public Domain circuit. The task is as simple as it is addictive. Water pressure is building up in the main pipe and is just about to blow. You have to build a series of tubes for the water to go through when it eventually bursts out of the tap. The different pieces of pipe drop in on you in random shapes so you have to think ahead and reserve sections you may need later. Great fun and leaves you thinking that you can always do better.

POPULOUS 2

Electronic Arts £29.99 God Sim

Using the same game principle as its popular predecessor, *Populous*, the sequel surpassed everyone's expectations. Try to become more powerful than Zeus by defeating the opposing hordes that would invade your continent. The more battles you win, the more powers are bestowed on you. Choose to be the God of Storms or King of Fire, and invest in mastery of the winds or a combination of all the elements. An added feature is the sudden appearance of different creatures from Greek mythology who stride across the land causing havoc indiscriminately. Two versions are available and 1Mb owners will be treated to even better sound effects and graphics. Fabulous, you'll come back to it again and again, so get it on your hard drive now.

POWERMONGER

Electronic Arts £29.99 Strategy

Powermonger is one of Bullfrog's games that's been totally thrown in the shade by the hugely successful *Populous* series. Although often paired off with the giant God sim, *Powermonger* is in fact nothing like its prestigious stable mate. You take the role of a ruthless warlord who must bribe the meek, spy on the sinister and destroy the destructible! This is a more realistic simulation than *Populous* and incorporates such effects as rivers, hills and settlements. All the people, battles and action are completely at your finger tips and can be rotated around and zoomed in on at will. Great fun and more demanding than the others.

ULTIMA 6

Mindscape £29.99 RPG

Every game in the *Ultima* series is a masterpiece in its own right. The collection has sold over a million units worldwide and won more awards than Walt Disney. The basic core of the games revolves around the battle between good and evil and the latest addition to the family is no exception. By far the best *Ultima* game in existence and almost perfection in an RPG environment. Most other games pale in comparison. You'll need at least 1Mb to run it, and of course the fun is doubled by the use of your hard drive.

RAILROAD TYCOON

Microprose £29.99 Strategy

Build yourself a railroad empire in North America or Europe during the heyday of locomotion. Each territory has its own economy, products and resources. Players must choose the right train engine and rolling stock for the job and keep the equipment up-to-date. The game has an exhausting amount of detail and depth.

SIM CITY

Infogrames £29.99 Strategy

The game that started it all. 'God Sims', as games of this type have come to be known despite the fact that they're not all true to the name's description, can be found in most software shops these days in a variety of forms. However, this classic urban planning simulation, although looking slightly dated against the modern competition, still cuts the mustard and is also available bundled with *Populous* in a classic nostalgia pack. Take the destiny of the world's greatest cities in hand and build factories, airports, fight crime, pollution, collect taxes and balance the budget. Natural disasters also plague your lands so keep building if you want to survive.

THE GODFATHER

US Gold £30.99 Shoot 'Em Up

A classic example of the misuse of a film license. Probably due to no fault of their own, US Gold's Mafioso epic bares little resemblance to the Brando/Pacino masterpieces. Dogged by copyright problems, this average platform/*Operation Wolf*-type affair does its best to recreate old New York with some fantastic back-drops and digitised sounds. However, with the absence of any recognisable characters and the tough difficulty level, the game pulls on a pair of concrete moon boots from the beginning.

THE SECRET OF MONKEY ISLAND

US Gold/Lucasfilm Games £25.99 Graphic Adventure

There's not much you can teach the George Lucas team about creating top-quality interactive entertainment. This game is superb in every respect: gorgeous graphics, seductive sounds and heaps of humour. The swashbuckling pirate adventure has absolutely no typing involved and incorporates a terrific use of dialogue that's fun to read and refreshing to find. Once again 1Mb is required, but its memory extremely well spent.

WILLY BEAMISH

Dynamix £34.99 Graphic Adventure

Willy Beamish spans an incredible 12 disks and not being able to store it on a hard drive would make playing the thing nearly impossible. Believe us we tried, forget about mapping the game, we had enough trouble trying to keep track of all the floppies. Willy is a child of the Maculkin variety – obnoxious and American. Bungling his way through his 'Wonder Years', Willy's only ambition is to take part in, and win, the national Nintari video game championships. By going through the game world and collecting objects you'll get the youngster closer to his goal. As you might have guessed, with this amount of disks the game is very graphic intensive and the smallest action takes an amazing amount of disk swapping and accessing. Even when running from the hard drive interruption of the game is so regular as to render it a prime case for suicide. The linear game play doesn't allow for any mistakes and often leads to dead-end situations. The animations are impressive, but excruciatingly slow, and only those with the patience of a saint will let this product out of their house without it leaving on the inside of a full up bin liner.

LEISURE SUIT LARRY 5

Sierra £34.99 Graphic Adventure

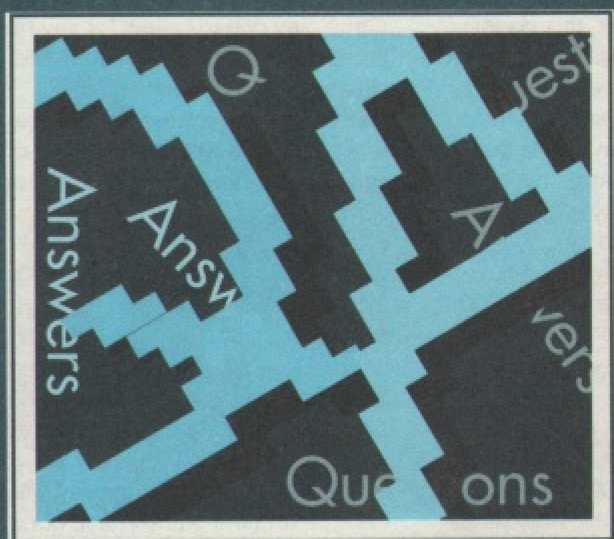
The first of the *Larry* games were a mixture of mouse point and click control and text input. Thankfully the programmers quickly did away with the type and the games have gone from strength to strength. The adventures of the sexist nerd are not to everyone's liking, but you can rest assured that most of the fun is carried out with several tongues thrust firmly into cavernous cheeks. With this, the latest in the series, Larry has really fallen on his feet, and whilst working for a mafia boss he is persuaded to host a new soft porn show where the host must locate the sleaziest old boiler in America and lead her into bed. With three possible candidates in mind Larry jets off immediately to find his women. Graphically and sonically, this is the best Laffer adventure yet. There's nothing that fans of the games will find new, except that it seems to be slightly easier than the others. The control system has been moderately improved upon and the game deserves to be in any adventurer's library.

HARD NEWS

Don't think we've left you floppy users out in the cold. If you haven't got a hard drive and don't have a clue which one to get our resident technical genius, Nick Veitch, has put together this list of the Top five drives that can grace your machines. Now there's no excuse for slacking!

TOP 5 HARD DRIVES

1. **GVP 2 – Silica** (52 Megabytes): £369
2. **RicHard – Diamond** (52 Megabytes): £349
3. **A590 Plus – Commodore** (40 Megabytes): £370
4. **Data Flyer – Hard Cache** (80 Megabytes): £370
5. **IVS Trumpcard – Diamond** (52 Megabytes): £320



Don't let your Amiga-related questions remain unanswered – especially when Mat Broomfield is here to help...

A PLEA FOR HELP

I'm going to start this month's Q&A by asking for your help. One of our most fre-



quently-asked questions is "How do I set up my printer?" Obviously, we don't have access to diagrams and DIP switch settings for every printer available, but that's where you come in...

If you own a printer, and you've got it working perfectly (ie. printing graphics as well as text), I'd like you to send in the following information: the make and model of your printer; the emulation mode used; the DIP switch positions; the printer driver you use; where you got it from if it didn't come with Workbench; and anything else that other readers might find useful. I'm especially keen to hear from you if you own an unusual or obscure printer. The information will be compiled into a definitive printer database which will then be used to help other readers as the need arises. As if the knowledge that you're helping your fellow readers isn't enough, we'll be giving a free subscription to one of the people who writes in.

MAC EMULATOR

I purchased an Amiga 500 at Christmas with a view to doing some of my office work at home. I was under the impression that it was easy to transfer files from one machine to another, but for the life of me, I can't find a way to get files from my A500 to the Macintosh at work. Do you have any suggestions?



P. Drewsley – Bradford

There are two solutions that spring to mind. The first one is to buy the *A-Max II* Macintosh emulator for your computer. It consists of a small interface which plugs into the external port, and into which you can plug a Mac drive. You'll need to buy the Mac ROM chips, system disks and drive separately. As the complete set-up comes to over £350, you might prefer to look at buying a Mac classic, which costs roughly £600.

Alternatively, transfer your files via a PC disk. All you need is a blank PC disk and any Amiga to PC copying utility, (*MessySID 2*, for instance). Copy the Amiga files onto the PC disk, and use the Mac's Apple File Exchange utility to transfer them. You can buy *A-Max II* for £169.95 from Entertainment International, Unit 4, Stannets North Trade Centre, Basildon, Essex. Tel: 0268 541126.

DELUXE PAINT TUTOR

I've been trying to learn to use *DPaint*, but I'm not having much luck. I heard that there was a tutorial video available. Is this true, and if so, where can I get it from?

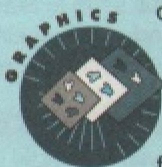
Mitch Morgan – Worthing, East Sussex



You're right, there is a video available, and it's called *The Deluxe Paint III Tutor*. It's nearly three hours long, and covers all the basics, from menu selections and brush creation to animation. It costs £29.95 and is available from Audition Computer Services, 35 Broad Street, Stamford, Lincs, PE9 1PJ. Tel: 0780 558888.

PRINTER DEVICES

I find it impossible to print any of my work from *DPaint III*. I have a monochrome Epson printer which works well with everything else, but when I try to output from *DPaint* I receive the message 'Can't open printer device'. I only have an unexpanded Amiga, does that make any difference?



Secondly, can you tell me which is the best DTP or word processor which will let me print text and graphics on the same page? The results must look professional, but I don't have much money to spend.

Darren Sutton – Spalding, Lincs.

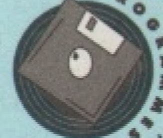
To print an image, the disk from which you loaded *DPaint* must contain three files: a printer driver, a printer device, and a system configuration file. The printer driver tells the computer which printer you own (Epson, Qume, etc.), and can be found in the DEVS/PRINTERS directory. The printer device is used to ensure that only relevant information is sent to the printer and it lives in the DEVS directory. The system configuration file tells the computer which printer driver to use, and is created when you set the preferences, and it also resides in the DEVS directory. If any of these files are missing, you won't be able to print.

The easiest way to get them onto your *DPaint* disk is to copy them from a disk that you can already print from. Alternatively, if you boot from a disk that works (your Workbench disk for example), and load *DPaint* from there, your art package will automatically use the preferences and printer configurations from the boot disk.

Most DTP or graphic word processor packages cost upwards of fifty pounds, and the best of these for pure DTP is *Professional Page*, and *Penpal* or *Wordworth* for graphic word processing. However, *Amigafox* is a PD offering which is reputed to be OK, and only costs a pound or so. You can get it from NBS (disk #U616) at 1 Chain Lane, Newport, IoW, PO30 5QA.

STOCK CONTROL

I'm using an A3000 in my office primarily for word processing and some limited databasing. As I own a garage, I was hoping that I could also use it to help with our accounts. I was looking for a package which automatically generates invoices for our parts suppliers. Do you know of any suitable packages, and, if so, who can I purachse a copy from?



Richard Venables – Tankersley

Yes, *System 3* will do what you want and more. It handles stock control, sales ledgers, cash flow and, of course, invoicing. It costs £59.99 and you can buy it from Digita International Ltd, Black Horse House, Exmouth, EX8 1JL. Tel: 0935 270273.

2.0 UPGRADES

I'm a little confused by the differences between the new Amiga Plus and the older 1.3/1.2 machines. I understand that a new Kickstart ROM and Workbench is required, but other than that I'm in the dark. Can my old Amiga be upgraded to a Plus, or do I have to sell it and buy a new one? What's all this talk about internal and external RAM and fast RAM? How important is it to own an Amiga Plus in terms of the new software that's coming out?

David Roberts – Treown, Wales.

The new Amiga Plus features a number of major enhancements, including the ability to use up to 2Mb of chip RAM (for better sound and graphics handling), an improved DOS and Operating System, and scalable font support.

For games players, the 2.0 doesn't really make that much difference as most games are written to the specifications of the older machines. However, 'serious' users are generally very impressed with the new machine, and find it much better to use than the older Amigas.

The 2.0 upgrade kit won't make your A500 fully compatible with the Plus as it only includes the new Kickstart chip and Workbench disks. To take advantage of all the new features (especially the higher amount of Chip RAM), you'll also need to buy new ECS Denise and Agnus chips, which cost £37.55 and £60.18 respectively.

You can buy the chips from CPC, 180-200 North Road, Preston, Lancashire, PR1 1YP. Tel:0772 555034. You can buy the 2.0

upgrade kits from Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX. Tel: 081 309 1111.

HARD QUESTIONS

If I were to purchase a GVP hard drive, would it be necessary to upgrade my half meg A500 first? Also, what upgrade would you recommend for the hard drive?

J. Meadows – Queensland, Australia



No, you wouldn't have to upgrade your computer first. You can add up to 8Mb of memory on the GVP drive, and I would suggest that either 2-4Mb is a reasonable starting place. If you're only playing games, you're unlikely to need more than two, though. Remember, if you're going to upgrade to the full 8Mb, you must use 4Mb chips as you upgrade.

NOTEPAD VANISHING ACT

I recently bought an A500 Plus and a Commodore 1230 printer. After hours of trying to use the printer, I just can't get it to work. I copied the Epson X printer driver onto the Workbench disk from the Extras disk, but can't get any further because there's no notepad in the utilities drawer, as there was with older Amigas.

I've been told that I may have to buy a word processing disk, is this true? Is there any way that I can use the printer with *DPaint III*, because it's got to be a lot cheaper than buying one? I've tried printing from it, but when I select `Print' from the menu, all I get on the screen is 'Cannot open printer driver'. I have a copy of someone else's Workbench 1.3 disk, will that help?

M.Eyre – Goole, North Humberside

There's no reason why you need Notepad to make your printer work. It's basically just a third-rate word processor and was probably omitted from the Amiga Plus versions because it was so dire.

You can create text files using the MEmacs program found on your Workbench Extras disk. Once you've saved a file to disk, you can print it by opening a Shell or CLI window and typing: PRINT (filename) <return>. Substitute the name of your file where I've written (filename). This simply outputs your file to PRT: the printer device, but doesn't support text styling such as bold, underline, etc. For that, you will need a word processor, and whilst there are many good ones available, *Scribble!* is my personal favourite, and can be bought for less than £30. Better still, CU gave away a free word processor called *Text Plus* on the December `91 coverdisk. As for printing from *DPaint*, refer to the reply I gave earlier (Printer Devices), to find out what's going wrong.

SPEEDY SHELL

I've recently purchased a 1.5Mb memory upgrade for my Amiga 500, and I was wondering if I can use this extra memory when using Shell. I was hoping to change the Workbench startup-sequence so I can load the entire C directory into RAM, and also tell the computer to look to the RAM disk for the C directory.



This would save time for things such as file transfers, because with only two drives, I'm forced to keep inserting the Workbench disk every time I try to copy from any other disks.

Graham Allsop – Newtownards, Northern Ireland

Programmers often copy frequently-used commands to RAM to save time, and the new Amiga Plus even has some on ROM to make things quicker still. All you have to do is open a Shell or CLI window and type: COPY C RAM: <return> ASSIGN C: RAM: <return>

The computer will now automatically look to the RAM disk for all C commands.

ARCHIMEDES EMULATOR

At the moment I'm studying for my GCSEs and next September I hope to go to sixth form college to do an A-level in Computer Science. Apparently, the college uses the Archimedes, and we'll be programming using C and Basic. At the moment, I own a 1Mb A500 and a second disk drive. Are there any Archimedes emulators available for the Amiga, preferably PD, or could I simply program on the Amiga and transfer the files straight over to Archimedes disks? Please help or I may have to do A-level Economics instead!

D.Ames – Farnborough, Hants

To the best of my knowledge, there are no Archimedes emulators available for the Amiga, nor are there ever likely to be, because the Archimedes works very differently to the Amiga, and features Reduced Instruction Set Chips (RISC) – it would be like trying to get an Amiga emulator for the Commodore 64!

Having said that, both C and Basic are fairly standardised languages, so there's no reason why you couldn't use your Amiga to work out programs for college, print them out, and adapt them to the specific requirements of the Archimedes. C source code consists of a standard text file, and I'd be very surprised if you can't find a way of converting that directly to your college machines. Can anyone help?

NO SPEAKEE COMPUTERISH

I'm fourteen years-old and have tried programming in Basic, but now I'm thinking of giving up to try machine code. The biggest problem with mastering a language is reading and understanding the books that are supposed to help you learn. They use a lot of words which they don't explain, making it very hard to understand. Can you recommend a book that would help me to understand machine code, and how to program games? Why do programmers use machine code instead of Basic, what's the difference?

Richard (No Surname Given) – London

Many people have trouble understanding 'Teach Yourself' type books, and a number of publishers have produced books which are easier to understand. Machine code (assembler) is the hardest Amiga language to learn, so if you're having trouble with Basic perhaps you're not yet ready to try assembler. C could be a better bet.

Programmers use machine code instead of Basic, as it's more powerful and allows access to many features unavailable in Basic. Whereas Basic uses Keywords and expressions which are in English (Let a=13, for example), at best machine code consists of pneumonics which are not very easy to understand (LD A 13).

If you're determined to learn machine code, you may be interested in the the Abacus title 'Amiga Machine Language', which you can order from most high-street bookshop. If you change your mind and go for C, 'Mastering Amiga C' is one of the better titles, and can be ordered from Bruce Smith Books, PO Box 382, St. Albans, Herts, AL2 3JD. Tel: 0923 894355.

STAR LC24-200 DRIVER

I'm currently using my A500 with a Star LC24-200 colour printer. I'm using the Epson Q printer driver, and, whilst this gives me perfectly acceptable results, I wondered if the output could be improved if I used a LC24-200 driver, instead of an emulator.

J.M.Jarvis — HMS Rooke, Gibraltar

I'm not sure if there is a specific LC24-200 driver available, I doubt it. However, if the printer can emulate the Epson X series, your output is unlikely to be improved anyway. The best way of improving the output of any dot matrix printer, especially a colour model, is by using an invaluable program called *Flexidump*, which is available from Care Electronics, 800 St Albans Road, Garston, Watford, Herts, WD2 6NL. *Flexidump* features optimised colour and monochrome printing, and uses improved drivers for all common dot matrix printers.

CLIPPED ART

I recently purchased a set of clip art disks from 17 Bit software, and although I can load them into *Kind Words* and *DPaint*, I have problems clipping them in order to isolate a usable single image. Also, when loading them into *DPaint*, the colour palette changes, presumably because the images are supposed to be





black and white, and are not intended for coloured output?
J.M.Jarvis – HMS Rooke, Gibraltar

Most clip art is saved in medium resolution brush format, and includes a single image ready to import directly into your DTP package. The 17 Bit stuff includes screens containing lots of images, which need to be cut out as you require them. The easiest way is to simply load them using the Picture/Load option from *DPaint*, and cut out each image as you require it using the Pick-Up Brush icon. The new brush can then be saved via the brush menu, and can then be easily imported into your DTP package.

***DPaint*'s palette automatically changes to that of the screen being loaded, (but not if it's loaded as a brush). As most clip art is black and white, your assumption about the palette colour change is correct. However, you can always increase the number of colours using the Screen Format option. If you want full-colour clip art, just colour in the stuff you've already got!**

DARK MONITOR

I'm having a little trouble with a TV monitor I have bought. As my monitor was getting a bit old (and parts of it started falling off!), I decided to buy a new one, and opted for a Goldstar model. Luckily, the one I purchased had a Scart input so I could connect both computer and aerial into it simultaneously. There's only one problem: the brightness, contrast and colour settings can't be altered when in computer mode. As many of my games are a bit on the dark side, I often find that I literally can't see a thing. The shop didn't have an answer, nor did my local electronics store. Perhaps you can offer a solution?
Jason Fairley – Bemmel

I can offer two suggestions, although I can't guarantee that either will provide a solution. Most monitors and TVs that accept Scart input, allow the adjustment of the brightness and contrast of the picture, but not its colour. Recently I heard about a range of Mitsubishi TV/monitors which require a special type of Scart lead in order to register the full presence of the computer signal. These leads include a custom chip called a Jungle Chip, which apparently solves the problem. They cost about £16 and can be bought from Meedmore Ltd, 28 Farriers Way, Netherton, Merseyside, L30 4XL. Tel: 051 521 2202. Alternatively, American company The Memory Location, manufacture a special lead which increases the voltage (and consequently, the brightness) of the RGB signal. The lead is called *The Video Crisper* and costs £25.00 plus import tax and VAT, and can be ordered from 396 Washington Street, Wellesley, MA 02181, USA. Tel: 0101 617 237 6846.

WHAT CD ROM?

I was reading the January issue and I noticed a letter from Steve Franklin in which he said something about the A690 CD ROM. What is it, and what does it do?
Nick Martignetti – Truro, Cornwall

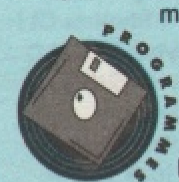


The A690 CD ROM is the soon-to-be-released ROM drive for the Amiga. It plays read-only CD ROM disks which can contain over 600Mb worth of data, and is essentially designed to turn an Amiga into a CDTV.

Incidentally, it's now been renamed the A570 so that people won't confuse it with Commodore's new cut-down Amiga, the A600 (due to be released in May).

C WHAT!

While reading the January issue of CU, I came across a review of a PD utility called 'Sozabon C', a program for writing C programs as far as I can make out. In the review it says 'C is one of the most popular languages on the Amiga. Offering the power of machine code, but only slightly harder to learn than Basic...'



I immediately assumed that C programs were those things that you find in the C directory on most DOS disks, so I decided to load one into a text editor. I loaded *MedPlayer*, a C program for loading and playing MED tunes. Expecting to see no more than a page of writing containing some variation on Basic, you can imagine my surprise to find three pages of ASCII gobbledygook! Now if that's what you call slightly harder to learn than Basic, then I must have learned a different version of Basic to everyone else! Is this what you have to write in order to create a C program, or is that just the compiled version that the Amiga reads, or have I just been completely misled?
Kevin Whittaker – Crook, Cumbria

Yup, you've been completely misled! C programs have nothing to do with the stuff in the C directory. The programs are written using an ordinary text editor, and they use 'proper' words such as 'define', 'case', etc. This text file is then eventually compiled into pure machine code which runs at optimum speed. The Amiga's Operating System was written in C, but if you looked at it, it would appear much the same as the *MedPlayer* file you looked at – a meaningless jumble of numbers.

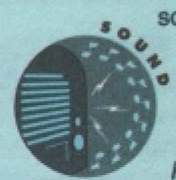
AMIGA PLUS COMPLAINTS

I'd just like to say I'm truly appalled by the fact that Commodore should bring out a new Amiga which isn't fully compatible with ALL software. I am, of course, referring to the Amiga 500 Plus, and I begrudge paying £400 for a brand new machine, only to discover that I'm forced to spend another £60 on 1.3 ROMs and a ROM sharer.
S.Hodges – West Yorkshire

To be fair, the problems are not entirely due to Commodore. Any companies who are interested in developing Amiga software can purchase a developer's pack which carefully outlines how they should and shouldn't program the computer. Provided developers work within these guide-lines, software will (theoretically) remain compatible with all future versions of the Amiga. Unfortunately, to squeeze the very best out of the machine, programmers often ignore this manual and do their own thing, to their ultimate detriment.

AMIGA PLUS MUSIC

Do you know of any version of *Soundtracker* or *MED* which works on the A500 Plus? I have two, *Noisetracker* and *Protracker*, but neither works. Is *MED 3.0* better than the *Noisetracker* variants, and if so, in what way? Is *MED* compatible with most samples like *Protracker*?
Kevin Whittaker – Crook, Cumbria



***Protracker 1.1* and *2.0*, and *OctaMED 2.0* and higher certainly work on the Amiga Plus. *MED* is much better than the other *Soundtracker* clones in every way. It provides more powerful editing facilities, accepts a wider range of samples (synth-sounds, raw, IFF, Hybrid, 5 octave), and gives you a wider selection of special effects. It's also capable of loading *Soundtracker*-compatible modules. The latest version, *OctaMED Pro*, is due to be released shortly, and can be purchased exclusively from Amiganuts United, 169 Dale Valley Road, Hollybrook, Southampton, SO1 6QX.**

SID HELP!

I've recently starting messing around with my Amiga with an eye to producing graphics and perhaps even moving on to coding. However, all my pictures and pathetic code attempts are scattered on millions of disks, and I've started to lose track of what goes where. If I had the time (or the inclination), I would sit down and plough through them all, but it seems such a thankless task I honestly can't be bothered. So is there a utility which will enable to to select key data or pics and dump them individually from one disk to another? Actually, if it was fairly cheap, that would be a major bonus.
Ian Quince – Portsmouth

The perfect answer to your problems is called *SID*. This useful little utility will enable you to load up two disks, scour their contents for what you want to take off and then dump them on to a fresh floppy for later use. It can handle virtually any files, and is extremely quick. Make sure that you've got two floppy drives, though, or you'll run into disk-swapping hassles.

That's it for another month. Don't forget, we're not just here to help, if you've solved a problem, that may help someone else, drop me a line, and I'll be happy to share your advice.

ANY PROBLEMS?

If you have any questions of a remotely technical nature, we'll do our best to answer them. Send your letters to: Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

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Doctorin' the disks

PART 3

You've seen how a disk works, you've seen why it works. Now, in the final part of this monumental series, Nick Veitch takes a look at what happens when they don't work.

LATE NIGHT CRISIS

It'll be late. It's always better when it's late. And you'll be tired, that's just the way it goes. It may even be your fault: a little too quick at the eject button, or accidentally dropped from an upstairs window. Anyway, however it happens, wherever it happens, sooner or later you're going to get a disk error.

When this occurs you'll find the human race divided into two distinct categories. Firstly, there are the aggressive types who may say a few rude words before grinding the offending floppy into the carpet or (my favourite) carefully cupping the disk in the left hand before giving it a swift right to the soft sectors. Remember to get a grown up to help you pick out the plastic splinters afterwards. The other sort is the one who raises one eyebrow slightly, brings a pensive finger to their lips and tries to work out which of the many disk tools will be the best for retrieving all that lost data. The whole object of this series is to turn you from the former into the latter.

DIAGNOSIS

The first thing to do is to discover whether there is in fact any hope of retrieving any of the data. Recoverable damage is the sort of damage caused by the disk being near a weak magnetic field; a minor virus attack; the Amiga being turned off whilst the disk was writing; ejecting the disk before AmigaDOS was finished with it; or accidentaly asking AmigaDOS to do something you didn't really want it to do. Non recoverable errors are caused by: putting the floppy in your motorcycle bag; pouring coffee, tea or diet Ribena through the little slot at the front; and cupping the disk in your left hand and giving it a swift right.

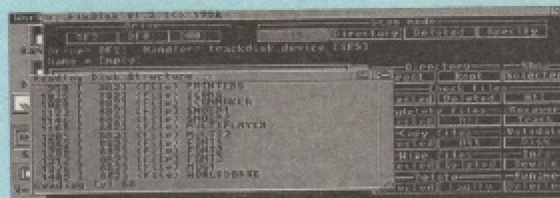
If you have a vague idea of what is wrong with the disk it will help you in trying to get the poor little thing spinning with the best of them again. The next stage is to run a copy of *Fixdisk*. What do you mean you don't have a copy? Oh well, you're stuffed then. I mean, you could edit all the hash table entries (see part 2) using *DiskX* or another hex editor, but it would take a very long time. Get *Fixdisk*, it's available from any good PD library.

Whatever you do, don't use *Diskdoctor*, the 'utility' provided with Workbench. It's a quack, a sawbones, a back-street abortionist. If you were on a desert island and all you had was a floppy of *Diskdoctor* and a damaged disk the sane thing to do would be to write 'send me *Fixdisk*' on *Diskdoctor*'s label and stuff it in a bottle.

THE OP

If your error is simply a validation error (the sort of error caused by accidentally turning off the machine whilst the disk is in motion) then you have no real worries. *Fixdisk* will validate the disk by going through the blocks and resetting the checksum for each. In fact, if you are operating under Kickstart 2.0, the system will attempt to validate the disk for you, since this routine is in the 2.0 ROM.

A more disturbing occurrence is a read/write error. There are two types of these. The first is when AmigaDOS comes across a track that has some physical damage so that the data is impossible to read – and there's very little which can be done about these. The second type of read/write error is when AmigaDOS can physically read the disk but it can't make sense of it.



Fixdisk reads every block on the disk to get an overall map of all the files – current or deleted - present on the disk.

As we have seen, the actual data stored isn't simply a stream of numerical data, a lot of the information stored on the disk is organisational in nature; the stuff which tells AmigaDOS where it's going and what to expect when it gets there.

If you have a read/write error, *Fixdisk* will attempt to read a copy of the data. You may be lucky and find that only the CRC (Cyclic Redundancy Check or checksum) is causing bother, in which case you will not have lost any data. It may be a god idea to duplicate your disk using *Xcopy* first. It is possible for *Fixdisk* to take a guess and rewrite the data back to the damaged track. This way you may lose some of the data but at least AmigaDOS will be able to read your disk without blowing you a raspberry.

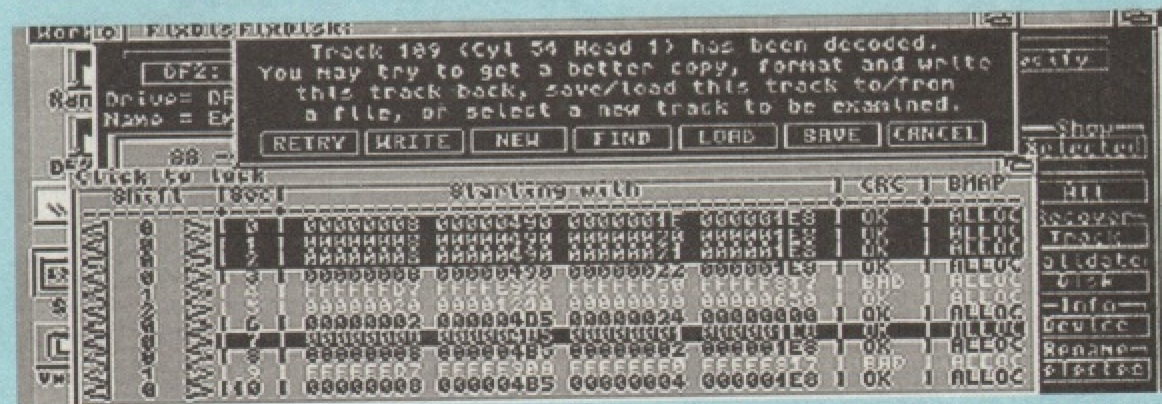
Files with blocks in the danger zone may be a bit wrecked – remember each block points to the next in the chain. If one block is damaged, AmigaDOS may not know where to find the next in the chain. But, as I'm sure you remember from last month, the file header also contains this information, so in effect you have two ways of finding out which blocks go where. *Fixdisk* will give you the option to reconstruct a file from the header or from block links.

If you have simply deleted a file you wish you hadn't, then you may be in luck. When a file is deleted, the blocks themselves don't disappear, AmigaDOS simply removes that file's entry in the directory. All *Fixdisk* or any other 'undelete' routine has to do is search the disk for the file header. As long as you haven't saved any other files to disk with the same name and as long as none of the deleted files blocks have been allocated elsewhere, it's a fairly simple matter for *Fixdisk* to reinstate the entry into the directory table.

THE RECOVERY ROOM

You can never really trust a once-knackered disk again. If you have a hard error (physical damage) the best thing to do is chuck it immediately. Don't leave it lying around where you may be tempted to use it again. If you do have some damage on your disk that you can't rationally explain, always check for virus activity. If you have a branded disk you should send it back for a replacement. A lot of people forget that their disks have a warranty. The disk is no good to you anymore and you may even get a letter of apology as well as a replacement.

So, there you go. You now know what to do with your damaged disks – get *Fixdisk*. Ok, so we could have told you that in the beginning but that wouldn't have been much fun. At least now you know what *Fixdisk* is doing while the drive light is flashing. You never know, someday it may save your data.

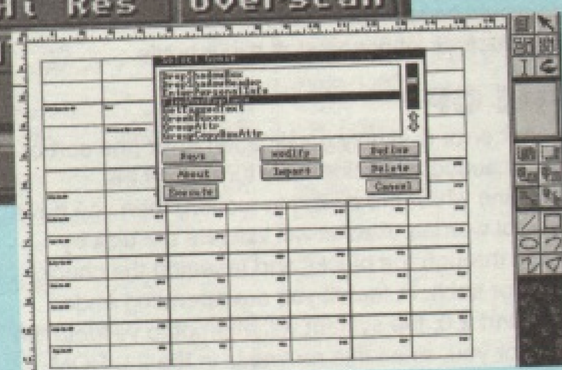


Sometimes there is nothing wrong with your disk, apart from a bad checksum. *Fixdisk* will try and read the track as many times as you like before writing a corrected version back to the disk.

mind your

To start off our regular series on how to communicate with your Amiga, we take an in-depth look at ARexx, the powerful scripting language which can cure terminal Schizophrenia in your work and applications.





'BYE, 'BYE BASIC

It can't have escaped your notice that a lot of applications are proudly proclaiming ARexx compatibility. So what is ARexx and what's the fuss? How is it possible that a mere scripting language can mean so much to so many? And why is Commodore releasing all Workbench 2.0 machines with ARexx instead of Basic?

ARexx (which is pronounced "A <pause> Rex") is nothing more than an interpreted language. It's a variant on Rexx, which was used on some IBM mainframes to write utility macros which would automate a repetitive or complicated sequence of tasks. ARexx keeps the keywords and syntax of Rexx but adds lots of Amiga-specific code and library calls which allows the user to call up proper Amiga menus and alert boxes.

Perhaps most interesting of all, ARexx is a typeless language. Unfortunately, this doesn't mean that you don't have to type it in, it means that there is only one kind of variable, in this case a string.

CONSIDER THE FOLLOWING:

```
/* Concat example */
Text="hours from Tulsa"
Time=12
string = 2*Time Text
SAY "My favourite song is" string
```

THIS WOULD PRODUCE:

"My favourite song is 24 hours from Tulsa."

This example shows off many of the languages little foibles. First off, every ARexx program or macro must begin with a comment. This is an attempt to force the programmer into writing at least the minimum amount of documentation. ARexx is fairly easy to understand, but there are few things more annoying than having to run a program before you can tell what it does. OK, so the filename may give it away, but if you're like most mad programmers you probably have drawers full of experiments tentatively named 'plop', 'ploppy' or, in rare cases, 'ploppiest'.

The second interesting thing is the variable declaration. Notice that we haven't put in any funny dollar signs or otherwise declare the string specifically as a string or the number specifically as an integer, floating point or whatever.

The next line does the trickey bit – multiplying the number by two, adding a space and the string to the end. Note that there are no data type transfers required, as all variables are created equal. In fact, much to the disgust of other language programmers, ARexx is case insensitive.

MULTIPLE PROCESSES

ARexx was designed to enable and control the flow of information between different tasks on a multitasking computer. This means it has a wealth of complex and powerful string operators which can be built up very easily. It also makes it particularly suited to the Amiga.

As everyone should know by now, the Amiga is a true multi-tasking machine – i.e. more than one task can execute instructions simultaneously. What most people don't realise is that this multi-tasking is going on most of the time, even if you are just running an application from Workbench.

In order to keep track of what's happening all the time, AmigaDOS has a system of ports and addresses. This means that all tasks can have a 'pigeonhole' where messages can be sent from Workbench. It is extremely easy for ARexx to set up a port to handle the flow of information from any other application which has also opened a port. This means that ARexx takes a role rather like that of a General on the battlefield – it accumulates information from other tasks and acts on it – sending out instructions to specific tasks or sometimes just to any task that is listening.

ARexx may be very small in itself, but the overheads in memory terms of setting up a large message and port structure means that, unless you have 1Mb or more, you'll find it difficult to interact with professional application software.

SADNESS: PART 1

The good thing is that ARexx was included with Workbench 2.0, so everyone who bought an A500 plus has got a copy. The sad thing is that many of them are not aware of it lurking on the Extras disk. Commodore have made no real attempt to provide a manual or guide which would actually teach people how to use the thing. Most people don't even know how to launch an ARexx script from the CLI (type "rx <space> filename").

There are several books available to guide both the novice and the veteran through the complexities of ARexx – and, although it's very flexible, intuitive, and logical, it can be quite intricate when it comes to balancing tasks. The best for new users is probably the Abacus title 'Using ARexx' which comes with a disk and is moderately priced (for a computer book, anyway) at £27.99.

If, however, you are financially challenged then we strongly urge you to stay tuned to this space where over the coming months an amazingly intuitive and easy to understand guide to the Amiga's script language will be appearing. As well as explaining the workings and strucure of the language we will be demonstrating programming techniques (useful in any language) and providing examples on the coverdisk for you to try in the privacy of your own disk drive. If you want to improve your understanding of the Amiga and how it works, we'll see you here next month.

language...

RECUR(RECUR(RECUR(SION)))

Each month, we'll be trying to give you a hint about a programming technique. These tips may not be specific to any particular language but since this is the first in an occasional ARexx series, it seems fair that the first example should be in Commodore's wonderful scripting language.

A recursive algorithm is one which is called again and again as part of an iterative process. Why bother. Well, iteration is a technique used by mathematicians when they are in a hurry. Instead of solving a problem by pure algebra or calculus (which can get a bit tricky), they prefer sneaking up on it – taking a guess and seeing how close it was to the actual answer, before modifying this guess and trying again until they get it right.

The algorithm here is not an iterative process, because they tend to be so complex that the actual programming technique would be lost. In this routine we are simply calculating the factorial of a number. This is defined as:

N! = N * N-1 * N-2 * ... N-(N-2) * 1

OK, so we could construct a FOR loop and multiply sucessive values of 'n' until we got the answer, but that isn't as elegant and is a dangerous habit to get into – for some programs you may not be able to tell where the loop should end.

HERE IS THE LISTING:

```
/* factorial processor showing the use of */
/* a self calling recursive routine*/
/*                              */
say "Okay, what's the number"
PULL x              /* get number */
answer=fact(x)      /* call fac routine */
say answer          /* output answer */
Exit 0              /* end program */
/*                  */
/* factorial procedure*/
fact: PROCEDURE
ARG z               /* pass arguments */
IF z=1 then Return z /* don't call fact if number is 1 */
                    /* (factorial of 1 is 1) */
                    /* This breaks the recursive cycle */
ELSE
z = z*( fact(z-1))  /* the factorial of n is n*fac(n-1) */
```

RETURN Z END

The first part of the program is fairly irrelevant. It's basically a front end to accept an input and call the 'fact' procedure. The first line of the function 'Arg z' is simply the way that values are passed between the main program and the procedure. The variable 'z' in the procedure is a local variable which accepts the initial value of 'z'.

After checking to see if 'z' is one (in which case the value of 'z' factorial is 1 and this answer is returned), we then proceed to the main engine of the routine.

We know that the factorial of n is equal to n times the factorial of n-1 (e.g. 3! = 6, 4! = 4 * 3 * 2 * 1 = 4 * 3! = 24), so we just use this to calcualte the answer. What will happen is that the factorial functions will be called again, this time for a value one less than before. This procedure is repeated until we ask for 1! (which, of course, is 1). Returning that value means that the previous function call can also return a value and so on, until the final answer is obtained.

NO COMPLICATIONS

Obviously, this is going to take just as long as performing the operation in a loop and can run up huge memory overheads (if your number is really big) but, as stated before, this is merely to show how recursion operates. There is a certain satisfaction to be derived from letting the problem solve itself. In complex iterative processes the recursion technique is essential and easier to understand, not to mention less complicated to write in the first place.

This listing does not provide for error checking, so if the number entered is not a positive integer you may run into some difficulties. Recursion is not only useful if you are having difficulty with your fluid mechanics. Fractal programs make great use of recursion – especially things like fern or tree simulators. Some may have a random element thrown in, making all the much more difficult to use conventional linear programing techniques. Besides, recursion is good and makes for a wacky flowchart.

NEXT MONTH

We'll be examining ARexx in more detail and discovering how to deal with multi-process communications.

picture power

Quality artwork is one thing but how do you transfer that quality to your DTP document? Nick Veitch investigates how to put pixels onto paper.

PICTURE BOOK

It would be a pretty boring publication that had nothing but words in it – I know I've read some of them. A little bit of artwork here and there can make all the difference to the reader. Even if you don't use photographs, there are many ways you can liven up your document with just computer drawn illustrations.

Artwork is also very useful for filling space. There is an ancient Greek myth about a chap called Procrustes. Now, this guy was a bit mad, so the only things he lived for in life were his iron bed and his large axe. On weekends and bank holidays, Procrustes used to hang out on mountainous paths and kidnap people. When he got them home, he would put them on his bed and do a bit of measuring. If they were too small for the bed he would stretch them a bit, and if they were too long it was party time for mister axe, but if they fitted just right... well, of course, no-one fitted just right. It's the same with the copy in any document you care to write.

Artwork is very useful because you can always make it bigger or smaller or chop bits off, or even stretch it in certain circumstances.

BUT WHERE DOES IT ALL COME FROM?

The trouble most people seem to have with artwork is where to get it from. Well, the simplest place is obviously to use *DPaint*. Although version *IV* doesn't handle 24-bit images, it can use HAM (which is roughly equivalent to 12-bit) and should be more than adequate if you are only outputting mono or using a dot matrix colour printer. The only trouble with this is that you must be able to draw after some fashion – besides, you might want just a picture of a person or a particular object.

Here we come across a common problem – how to get something from the real world into the domain of the computer. When it comes to artwork you have two choices. The one you are probably most familiar with is a video digitiser.

A digitiser looks at a video image, samples it (in much the same way as a sound sampler works), and then reconstructs the image into an Amiga display mode. This means that a lot of the colour data from the original is lost, but once again, it isn't really going to matter if you only want to print it out in black and white.

To confuse things further there are two types of digitisers. There is a plain digitiser, like the well known *Digiview*, and then there are grabbers. A grabber is a special type of digitiser, like Rombo's *Vidi* system, which grabs all the information in one go. The internal electronics are slightly more complicated, but essentially a grabber is just a very fast digitiser.

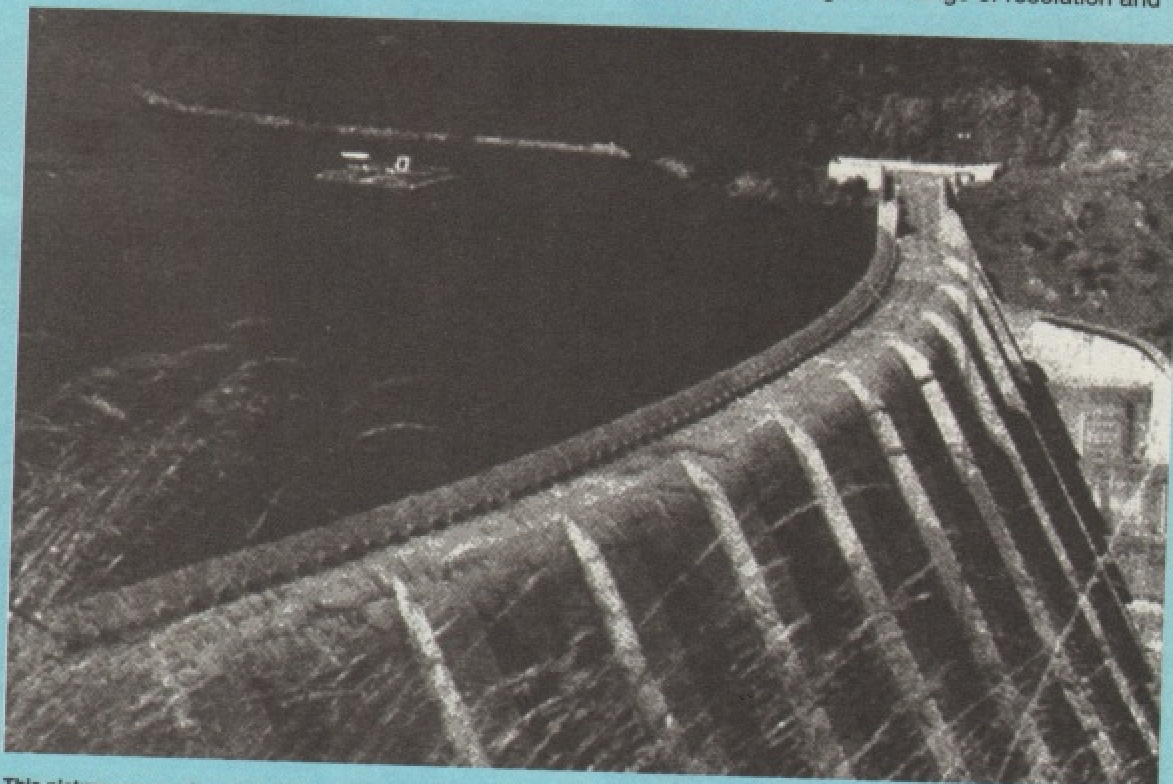
Which is better? Well, plain digitisers usually give better results because they can more accurately analyse the data over a period of time. Unfortunately, this means you need a very still video image to begin with – so you're going to have to buy a camera. With a grabber, you could just as easily grab images of the video or the TV (but remember you could be infringing someone's copyright if you use it in your publication) although, presuming you want a picture of your pet cat, it will be a bit easier buying a camera anyway rather than waiting for Tiddles to appear on Jonathan Ross. Aside from allowing you to grab from video recorders, a digitiser will also mean that you don't have to nail your pet cat to the floor while the image is grabbed (a normal digitiser can take around 10-15 seconds to digitise one full frame).

A camera needn't be expensive either. For a start you don't need a Camcorder, just a camera. In the old days when video recorders were still new and very few people had one, you could buy video cameras to go with them. These were just camera units and had to be attached to the VCR if you wanted to record what was going on. They didn't catch on too well because early VCR decks weren't exactly portable and not many people could think of potentially interesting films they could make in a five-yard radius from the corner of their living room. Some of these early cameras have survived, though, and can be found in those funny backstreet electronic shops that you can only ever find your way to once.

A better bet is the growing market in security equipment. There are lots of Closed Circuit TV systems around that rely on a cheap black and white camera. Okay, so it's cheap, but it's quality is probably still good enough for your newsheet or whatever. Maplins (0702 556001), purveyors of quality electronics to the cognoscenti, are offering a high quality mono camera (which even supports infrared) for only £129.95 – a lot cheaper than any Camcorder. You can get colour cameras as well.

SCANNERS

The other method of real world data capture is via a scanner. A scanner is a bit like a short sighted digitiser and camera built into one. The optical scanning device actually comes in contact with the object to be scanned (usually separated by a piece of glass or plastic). The first obvious advantage of this is that you get a much clearer image. The major disadvantage is that you can only scan flat images (NB. it is much safer and less messy to take a photograph of Tiddles and scan that rather than try to flatten the poor beast). Scanners are also capable of a greater range of resolution and ➤



This picture was produced via a hand scanner. You can see how it helps to liven up a page, and can provide a more balanced and interesting piece. Presentation is essential if you are to capture the reader's imagination, and illustration is as good a route as any. In addition, it can also explain the point you are trying to get across more easily – after all, a picture is worth a thousand words.

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CU 5/92

picture power

are less susceptible to outside influences.

There are a wide range of scanners available. At the cheaper end of things are hand scanners. These are cheaper because the manufacturers haven't included a big case or a motor to drive the scanning head along – you have to push it by hand. A small wheel monitors the speed the head is travelling and scales the incoming data appropriately. This is more effective than it sounds, so as long as you go at a reasonably steady speed you'll be fine. The only major difficulty is going in a straight line, but you can usually construct some sort of scanning box or use a ruler to help you.

The other sort of scanner is a flatbed. This is much more impressive-looking and produces a more reliable result. The Sharp JX series are generally regarded as the best but for their high price they would need to be.

PICTUREWARE

Instead of buying all this equipment and struggling with it yourself you could always get someone else to do it for you. One such person is Nik Williams. Using broadcast-quality video equipment, he has digitised loads of images and grouped them together in sets. His motorbike stuff is excellent, but he does have lots of shots of all sorts of things. The best thing of all is that he's a great guy and can usually help you find a particular image. The disks are very cheap considering the amount of time and effort that have gone into them. In fact, even if you do have a digitiser or a scanner, you may still want to get some pictureware images because they are such high quality. Give Nik Williams a call on 0792 470503 or write to Aspect House, 21 Brynmill Crescent, Swansea SA2 0AL.



This scene shows some of the difficulties you may come across when scanning artwork. The scene is a little dark and could pose problems when printing. Also, the odd fringe is caused by scanning a picture in a screened procedure – a magazine, for instance.

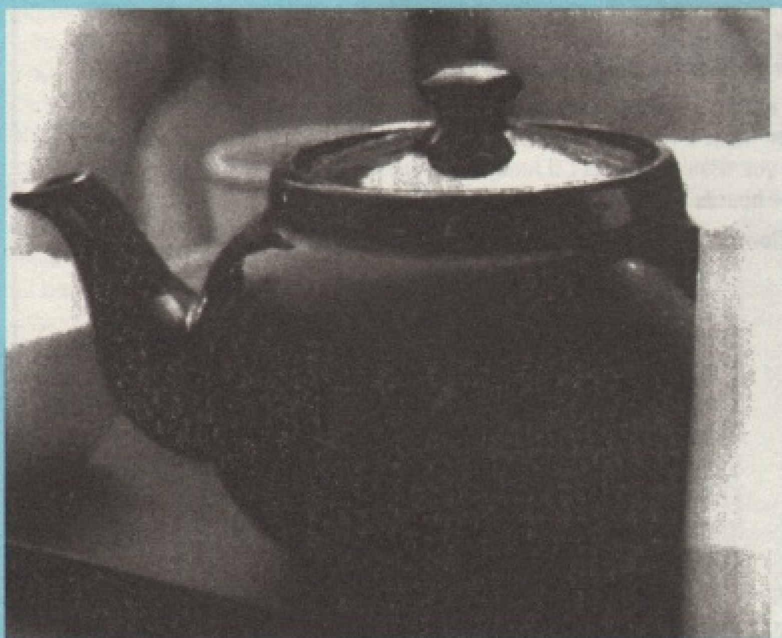
FROM SCREEN TO PAGE

A funny thing happened on the way to the printer. It's a rare image you grab yourself that comes out perfect. There will always be some sort of mess, a nasty colour bias or perhaps some smeggy noise bits that need tidying up.

The basic stuff you can do in *DPaint* – changing resolutions, cropping images, altering colour values – but for really pro work you need a specialised art preprocessor. Currently, these come in two flavours: *Pixmate* and *Art Department Professional*. *Pixmate* is excellent for creating weird effects but sadly lacks a 24-bit option. *ADPro* has 24-bit capability but is a bit useless at weirdo processing effects. It is also a lot more expensive.

Some of the effects you can achieve are shown in the box-out on this page, but even if you are not after any particular effect it is useful to load your image into an art package before you incorporate it into your DTP package – if only to check it is in the right format. Hi-res or interlace won't mean much to your DTP package because it's dealing with pages and not screens but the aspect ration may get screwed up if you are using a funny format. Usually it is a good idea to translate everything into lo-res on *DPaint*. It doesn't matter if the image will no longer fit on the screen, the other bits will be saved and you can be sure that the aspect will be preserved.

This is by no means an exhaustive treatise on how you should go about adding art to DTP but we hope it has given you a few more ideas about how to improve your efforts. Happy processing.



This teapot is provided courtesy of the Power Scanner, probably the best quality hand scanner you can find at any price. However, surprisingly for such a high-quality device, it sells for the absurdly low priceof £95. It really is an incredible gadget, and if you require more information, give Power a call on 0234 843388.

Popular Effects And How To Do Them

Duotones are images which contain two inks (and therefore three colours). The image is usually processed exactly the same, but with a different screen angle for each colour, giving a deeper tonal range between the background and the primary ink. This effect can be fudged in DPaint using the palette requester.

In 16-colour mode with a greyscale image select the third darkest colour. Add a bit more blue (for example) and then spread this colour to the third lightest. This will give a fairly good simulation for your colour dot matrix or laser.

A greyscale vignette is simply a greyscale which has been masked so that the background disappears. You can easily do this in DPaint by using the irregular brush tool to cut around the edges of the image or you could white (or black) it out with a brush. Art Department has a Remove Isolated Pixel function which is very handy for removing scanner noise. These are useful for runarounds. To alter the tone of the image you could over exaggerate the highlights on the image. If you have a similar palette setup as in the previous example, simply change the three lightest values to pure white and then spread from about third lightest to third darkest. This sort of effect is particularly effective on pencil or line and wash illustrations.

Line art is good. For a start it doesn't take up half as much room as a 16-colour image because it is only one bitplane. Thus a hires interlaced screen takes up (((640x512)/8)/1024) = 40k uncompressed! With standard IFF compression (as used by nearly every art package on the Amiga) this could come down to about 9k (because the compression routine is more effective on a single bitplane). If you simply change displays in DPaint to 2-colour mode you will get a line art image. However, you may lose some detail doing this. A more effective way is to use the stencil option to mask the background and colour in all the areas of detail you are sure you want to keep.

Always remember when preparing images to leave enough of a margin around the edges. This makes for easier placement and avoids nasty bits of white or dark space creeping into the edges of your picture boxes.

under the baud

Linking your Amiga to a Modem can help you communicate with the rest of the world. Dave Burns takes a look at Comms for beginners...

ALL MOD COMMS

Comms, like many other computer terms, is an abbreviation. In this case, it stands for Communications, and involves two or more computers communicating via a telephone line. It may be hard to believe, but with the addition of another piece of hardware to your set up, every character you type can appear almost simultaneously on a computer screen anywhere in the world!

So what is this marvellous piece of hardware which turns your computer into a communications device? The answer is a Modem, which is yet another abbreviation, this time standing for MODulator-DEModulator. These small devices connect your machine's RS232 port to a telephone line and send a coded (Modulated) signal down the line to the receiving Modem, which turns the signal back into something the computer understands (Demodulated). In this way, your Amiga can 'Talk' to a PC, or a BBC can 'Talk' to a Spectrum.

There are many types of Modem available, from a V21 to a 9600HST at prices ranging from a tenner second hand to £1,000. Modems, like computers, are many and varied – the speed of operation (Baud rate), the standard (the comms method and style of operation) and the different lights, sounds, etc, all help to make choosing a Modem as difficult as choosing a computer – with one major difference. When you buy a Modem as a separate item, it will work on most machines. Let's have a look at some of the varieties available.

SETTING THE STANDARD

The most widely used type of Modem is a Hayes Standard or Hayes-compatible Modem. Just as most printers are Epson compatible, most modems are Hayes-compatible. Suffice to say that the first question to ask yourself when buying a Modem is 'Is it Hayes-compatible?'. If it isn't, then put it down and find one that is. Now that we have found our standard, what speed do we want? Speeds start at 300 and go up to 9600 and beyond! The quicker the speed, the less time it takes to send or receive information. Just to confuse matters, these are often referred to in the form of V numbers, and refer to how many bits per second are transmitted and received. The Modem in the shop may be referred to as Hayes-compatible V22bis which means very little unless you know the V numbers.

1. **V21 = 300tx/300rx**
2. **V23 = 75tx/1200rx**
3. **V22 = 1200tx/1200rx**
4. **V22bis = 2400tx/2400rx**
5. **V32 = 9600tx/9600rx**
6. **HST = 450 tx/14400rx**
7. **V32bis = 14400tx/14400rx**

Most modems offer not only the V number stated, but all the lower speeds as well. You may be offered a V21 at a good price, but it would be a false economy as the time spent transmitting and receiving will cost a fortune. The minimum you would want is a V22. The ideal Modem will be a V22bis giving you a speed of 2400 out and 2400 in. 5, 6, and 7 in the chart above are not really needed unless you plan to spend a long time on the telephone. So we have established that we ideally need a Hayes-compatible V22bis Modem.

SMOOTH OPERATOR

To operate the Modem, after connecting it to your computer and telephone line as per the instruction manual, you need to convert your keypresses into something the Modem will understand. Just like a printer, you need a 'driver', in this case, terminal software. The most basic will be just a blank screen with a flashing cursor, while complex software will enable you to dial, connect, and complete the log on sequence with one simple keypress or mouseclick.

Before we even try to use a Modem, it might be worthwhile having a quick look at what it is going to cost to run. Remember, you are using the telephone line, and BT do like to grab their pound of flesh. You don't need a special telephone line to use a Modem, and the charges for a Modem call are the same as a local call using voice. So, if you phone a local number the cost per minute is the same as for a spoken call.

Now we're set up, let's look at what we can do with a Modem. Well, one thing is to pass messages and files to another Modem-owning friend. But why stick to one on one? The whole idea of a Modem is to enable you to expand your horizons. This is what a Bulletin Board is all about. A Bulletin Board System (BBs) is generally set up and run by a fan of computer comms and run from his or her home. This person, known to users as a Sysop, runs the board for no profit, which very often runs at a loss, but benefits by making many friends in the computer world. Having said that the board is run from home, though, this does not mean that it is a sub-standard service. Most Sysops, quite rightly, are very proud of the service they provide.

BITING THE BULLET

What you will find on a bulletin board is a set of areas or conferences that deal with a certain topic – general chat, sales and wants, adventure

RECOMMENDED BOARDS

All the following boards have networking facilities, so everything you leave on them will also appear on the other boards in this list. Have fun, and should you wish to contact CU Amiga via your Modem, leave a message on any of these boards and we'll pick it up at the Hotel.

The following UK boards are part of the Worldwide FNET Network:

Lightfinders Place	020-248-5723
Micro-Mola	081-316-7402
The Penthouse	071-930-3903
Sheffield Alt. Solution	074-232-5232
Track 83	095-385-1351
STealth BBS	053-255-7739
System X BBS	090-461-2934
The Laser Dome BBS	027-258-4352
InterNet	029-639-5935
The Hotel BBS	063-483-1389
The Tavern	081-445-6514
Maverick Deviation	067-081-3603
The Games Machine	027-460-6670
Fortress BBS	081-317-3158
Reachout CBBS	027-058-3278
Sanitarium BBS	048-040-3375
Quantum BBS	021-707-0681

walk



games, etc. This is where you can leave messages to other users, either by name, or open to all. You will also find areas where you can download and upload software, and even where you can send E-Mail to another user. Unlike general messages, E-Mail is totally private and can only be read by the person you have sent it to. You will also find on all boards the option to 'Page the Sysop'. If ever you have a problem, or don't understand something, then use this option and the Sysop, if he's around, will come on line and speak to you directly via the Modem.

Now you have a Modem, know what a bulletin board is, and are ready, let's gocall a board. If you have the option somewhere on your software, set the Baud rate to the highest your Modem has (1200 or 2400, for example), set the configuration to word length 8 bits, no parity, and 1 stop bit (8N1), and go into terminal mode. Now test the Modem is ready by typing AT <Return>. AT is the Hayes command for ATTENTION, a command is about to follow. You should have an Ok report, which means everything is fine. Now we will go onto a board. The example that follows is for the HOTEL BBs in Rochester, Kent, but if you know the number of a board in your area, then use that number. Ashort list of recommended boards can be found on the left of this article.

Type in
ATD 0634831389 <Return>

All being well, the Modem will now be clicking and purring. By typing the above instruction, you have alerted the Modem to a command coming (AT) and told it to dial (D) and given the number you want it to dial. Providing the number is not engaged, the phone at the other end will ring, and, on being answered, you'll hear (if your Modem has a speaker) a short high-pitched whistle. This is a sound sent out by your Modem to the Modem at the bulletin board. What it's saying is 'Hi, I wish to communicate with you. I'm running at a speed of (whatever you set) and set to 8N1'. This will be followed by a very short squeal from the other end which is 'Hi, I have matched speeds with you and am now alerting the software so that your user can see what is happening'. The next thing you'll see is a welcome screen, followed by some prompts for your input. In the case of the Hotel it will ask you to enter your name, or 0 if you are a new user. This is known as the 'Log On Sequence' and, as a new user, you will be asked a brief series of questions, such as name, phone number, etc. You will also at some stage be asked for a password. This is MOST important. The password is to make sure that nobody else can log on in your name, so don't forget it, or pass it around. The only people ever to see your password are you and the Sysop. Now that you are 'ON LINE' follow prompts and menus to discover the wonderful world that has just opened up to you. If you get stuck, remember that on each menu there is a help command, and most Sysops will be only too happy to offer much-needed assistance.

In next's month Comms feature, we'll be taking a look at a few of the bulletin boards in greater detail and we'll also be giving you the low-down on the best Modems to purchase.

BULLETIN BOARDS' CODE OF CONDUCT

There are a number of important rules and conventions to follow when using a bulletin board.

- **Always fill in the registration pages correctly and truthfully.**
- **Try to leave or respond to messages each time you log on.**
- **Avoid using bad language or messages that may cause offence.**
- **Do not 'trough' a board (ie. log on, download everything and log off).**
- **Never drop your carrier, always log off properly.**

From the latest advance in motion simulators and arcade juggernauts, to the monthly games charts, Rik Haynes gives us his expert opinions on what's hot and what's not, in the ever-busy computer world...

SHAKE, RATTLE AND ROLL

As the arcade industry looks for exciting new concepts to tempt an ever more sophisticated and diverse audience, motion simulators are finally making their presence felt. Rik Haynes reports...

What are the most popular amusement machines today? If London's Trocadero centre on an average Saturday afternoon is anything to go by, R360 and Virtuality from Sega and W. Industries are enjoying a comfortable lead on the unoriginal pack of standup blast and beat 'em-ups that have filled our arcades for the past decade. These next generation decks are heralding a growing and very lucrative type of video game with added spice, or, to put it another way, movies with motion.

Perhaps this is the ultimate form of escapism? Such simulation technology was first developed back in the 1960s to train jet fighter pilots without risking their expensive planes. As the hardware became more advanced, whole missions could be tried in umpteen different ways and practised to perfection.

It was inevitable that this neat expertise would leak out into the entertainment industry sooner or later. Sensorama was one of the first, and still the most radical, ideas to surface. This prototype motion picture system could take the viewer into 'another world' with 3D wide vision, motion, stereo sound, wind, vibrations and, most startling of all, aromas. Nobody was willing to back such a risky venture in those days. What does a Space Invader smell like, anyway?

No, Disney would be the company to characteristically grab a slice of the action ahead of the competition. Drawing upon the imagination and wizardry of George Lucas, the man who gave us Star Wars and Indiana Jones, Disneyland entered a new era of theme park entertainment with the introduction of Star Tours in 1987. People actually felt what they saw, creating a sensation of realism previously unmatched. You don't need millions of dollars and a bunch of Disney Imagineers to create a fun experience, though.

Sega has been adding sensation to video games for over seven years now. It started with *Hang-On*, where players sat on the replica of a motorcycle and rocked from left to right to handle any bends in the circuit. A string of hydraulically-enhanced coin-ops followed – *Space Harrier*, *Out Run*, *Afterburner*, *Powerdrift* and *Galaxy Force II* – culminating in the aforementioned *R360*. This goofy contraption was, in fact, a video game console that could revolve 360 degrees in all directions – back and forth, right and left. Motion sickness is almost guaranteed from a quick ride in this baby. The Dynamic Direct Dimension Burst Out System (D^3BOS) from Taito is basically *R360* built for two!



FAIRGROUND OF THE FUTURE

A CCD Cart is, in essence, the futuristic version of a fairground bumper car. Players participate in the 'game' by manoeuvring electrically-operated carts equipped with a CCD camera to gather up the lighted dots embedded in the floor. It's rather like an automotive version of Pacman. The person with the largest number of dots when the time has expired wins. A maximum number of 16 vehicles is possible and these mobile cabinets can seat two people. Each cart carries a large-size shock absorbing bumper to handle the nasty collisions, though an emergency button inside can be used at any time if an accident occurs during the game. It's a shame but Sega currently has no plans for a European launch for this remarkable amusement machine.

In Japan, this is big business and it's likely to become increasingly important in the new shopping malls and multiplex cinemas springing up across Europe. These rides provide an experience few can easily forget. There's another big plus for the further progress of motion simulators: they entertain a very broad market including adults, children, students and tourists.

Rediffusion's *Commander*, its recently launched two-seat interactive entertainment simulator, comes with high resolution graphics, CD stereo sound and software exclusively designed by LucasArts Entertainment, the company responsible for highly respected Amiga games like *Monkey Island* and *Their Finest Hour*. Rediffusion is promising a variety of games scenarios for the system, including the likes of air combat and submarine warfare, which will 'exploit the platform to suit all tastes and interest groups'. Hopefully, the talents of Industrial Light & Magic, Lucasfilm's special effects division in charge of the stunning visuals seen during films like Return of the Jedi and Terminator 2, will also be brought into play. 'Our world beating flight simulator expertise ensures the most realistic experiences,' assures Rediffusion.

What frills, chills and spills does the future hold, then? Randal Walser of Autodesk once envisioned a bizarre virtual reality notion known as the cyberspace playhouse, where the audience would be given a role in their very own or multiplayer three-dimensional simulation.

With enthusiasm and profit in such plentiful abundance, how much longer will it be before a sex simulator arrives?

THE WAY WE WERE

THREE YEARS AGO

• *Bio-Challenge*, the first effort from Delphine, suddenly hit our Amiga screens. Sadly, any slickness evident in later epics like *Cruise For A Corpse* and *Another World* wasn't yet within the grasp of these pioneering designers and programmers. As a result, the game quickly disappeared without a trace. In those dark days, Delphine was best known as the French record company responsible for the success of conventional musician Richard Claderman.

• US Gold briefly flirted with a low price for titles such as *Vigilante*, *Last Duel* and *Human Killing Machine*. The most significant reason contributing towards the subsequent failure of the label remains a secret to this day – was it the £15 price point or the sad games themselves?

• Anil Gupta, amiable boss of Anco, visited the offices of nearly every computer games magazine in the country. His humble briefcase contained an early prototype of what would become the world's most famous footie simulation. Everybody who saw *Kick Off* was impressed with the fast pace and the fact that they simply couldn't stop playing it. The rest, as they say, is history.

• Psygnosis had something really groovy looming on the horizon. This project from newcomer Reflections would literally beat the competition into submission with an overload of colour, hard sampled sounds and smooth parallax scrolling. *Shadow Of The Beast* certainly was a visual feast. The third outing in this approved series of arcade adventures should be out soon.

• Games software took a surreal twist when Logotron unleashed Archipelagos on an unsuspecting public. Following along similar lines to Firebird's brilliant *The Sentinel*, this action strategy production was blessed with tasty 3D graphics and that often neglected ingredient… originality.

• Martech, a small publisher responsible for lacklustre productions like *Nigel Mansell* and *Phantom Fighter*, finally closed down. Founder David Martin now works for Gremlin where he helped secure the rights to the forthcoming Mansell driving game.

TWO YEARS AGO

• The chequebooks were in evidence again this month, as the biggest and smallest software houses scrambled for licenses to prestigious movie and music properties including Mad Max, Iron Maiden and Dirty Harry. What happened to these games, eh? On a lighter note, at least The Edge failed to deliver anything connected with Yellowhead Street. This dire action cop show, a sort of cross between Miami Vice and Dempsey & Makepeace from Yorkshire Television, never even made it to a second series. The Edge didn't stop there, though. The first 24-hour music video station was also targeted for gamination. Players were supposed to become rock stars on MTV and, er, that was about it. Thankfully, we heard nothing more of this appalling idea.

• Electrocoin dabbled in the dwindling coin-op conversion market with *Time Soldiers* and *Mr Do!* More 'classics' were promised but none actually appeared.

• Fifty years after the real Battle of Britain, Lucasfilm Games and US Gold relived *Their Finest Hour* with a smashing air combat game which deservedly won the CU Screenstar medal of honour. It still knocks the socks off games which solely rely on speed, long-range radars and handy air-to-air missiles. *Midwinter*, the mammoth creation from Maelstrom Games and Microprose, was another top scorer in this issue.

• Legendary Amiga artist Tobias Richter boldly doodled where no-one had drawn before with a selection of glorious sketches of Star Trek's USS Enterprise. Does this guy ever find the time to sleep?

• Bob Jacob of Cinemaware was full of enthusiasm for the CDTV and his enhanced compact disc version of *It Came From the Desert*. 'There will be a new industry that will force the music, movie and software industries to work together'. We're still waiting for that one, Bobby.

ONE YEAR AGO

• Buzz revealed Ocean had snapped up *The Addams Family*, US Gold wanted a Young Indiana Jones and Team 17 was attempting to emulate the violence of cult 70s movie Rollerball.

• Dan Slingsby tracked down pictures of veteran TV detectives like Steve McGarrett from Hawaii Five-O, Starsky & Hutch, Dixon of Dock Green, Columbo and Charlie's Angels. Why did he bother? Krisalis had done such a good job with the Amiga adaption of *Hill Street Blues* that he was a bit bobby dazzled.

• Sally Systems Limited ran a recruitment advert for programmers who fancied the idea of helping dyslexic children by producing the right educational software for schools, private tutors and families.

• Psygnosis did it again. 'With our CD-based Fractal Engine we can do Star Wars, Top Gun, The Last Starfighter and anything of that ilk,' said co-founder Ian Hetherington, 'People will feel as if they're playing the movie.' The first batch of Fractal Engine games are still in production and should be ready for release on the CDTV and other systems later this year.

• Did you know that TV star gazer Patrick Moore used to own a Jupiter computer before he became the 'Gamesmaster' on Channel 4? This, and other useless and/or totally made-up facts, were unveiled in our infamous And Finally… section.

WHO IS THE AMIGA'S 'FATHER'?

1 Jay Miner
2 Manic Miner
3 Fay Miner

Answer (1)
Jay Miner is the chip genius who designed the fancy bits and bobs which went into the Amiga almost ten years ago. Although our fave machine was actaully known as the Lorraine back then, Mr Miner and the rest of his team at Amiga Computer Inc wanted to create, without a shadow of any doubt, the ultimate games computer. Their lack of compromise almost crippled the whole company. Thankfully, they finally managed to produce a complete power station capable of the best games, desktop video, dance music, and much more. Thanks, Jay…

WHAT'S THE ODD ONE OUT?

1 Thunderhawk (Core Design)
2 LHX Attack Chopper (Electronic Arts)
3 Gunship (Microprose)

Answer (2)
LHX Attack Chopper is the only helicopter simulation out of the three that isn't currently available on the Amiga. Cheer up! EA promises a conversion of this top game will appear sometime in the summer…

WHICH ONE OF THESE GAMES DIDN'T COME FROM THE ASSEMBLER OF KEVIN BULMER?

1 Terminator 2 (Ocean)
2 Corporation (Core Design)
3 Deuteros (Activision)

Answer (3)
Ian Bird was the person responsible for *Deuteros*. This strategy-laden sequel to *Millennium 2.2* has gained quite a few fans since launch. Apart from *Terminator 2* and *Corporation*, dear Kevin was also the brains behind *Basil - The Great Mouse Detective* (Gremlin), *Gauntlet II* (US Gold) and *Mask* (Gremlin).

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the software charts

TOP TWENTY AMIGA GAMES – Full Price

1 PROJECT X (Team 17 Software)
Coming straight in at number one, Team's blistering arcade-quality shoot 'em up might come on four disks, but its certainly worth a blast. Set over six massive levels and featuring some huge sprites, the game is undoubtedly the new benchmark for Amiga shoot 'em ups. If loud music, action-packed screens and more polish than Mr Sheen are your thing – get this. CU Amiga Screenstar, 92%

2 BLACK CRYPT (Electronic Arts)
EA's epic RPG, in the same style as *Dungeon Master* and *Eye of the Beholder*, is set in one enormous dungeon and is packed with some of the most devilish puzzles and traps ever seen in a computer game. The lush graphics and excellent sound effects complement and already excellent game. CU Amiga Screenstar, 90%

3 FORMULA ONE GRAND PRIX (Microprose)
This one seems to have taken up permanent residency in the top ten over the last few months and no wonder. Geoff Crammond has designed what is undoubtedly the best racing car sim available. Everything is super slick and super-fast with three levels of detail and courses drawn up from videos of their real-life counterparts. Outstanding stuff. CU Amiga Superstar, 93%

4 A320 AIRBUS (Thalion)
The level of detail in this flight sim borders on the pedantic at times but, nevertheless, this is an engrossing simulation. If Thalion can be believed, you should be able to pilot the real thing if you master this. For people who want a break from the routine of blasting enemy MiGs to death, this is a perfect respite. CU Amiga Rated 81%

5 HARLEQUIN (Gremlin)
Gremlin's latest platformer has you taking the role of Harlequin, a lanky and somewhat gormless sprite who has to traverse twenty-four huge levels in search of four parts of a broken heart. On your travels you have to contend with a variety of switch-related puzzles, spring-loaded floors, flying alarm clocks and other such weirdness. Need we say more? CU Amiga Screenstar 91%

6 SPECIAL FORCES (Microprose)
This one failed to make the grade and was consequently not reviewed in CU Amiga. The game puts you in charge of a band of eight mercenaries, four of whom have to complete various anti-terrorist missions. There are a truck load of options to wade through, all very impressive and detailed, but once you reach the arcade section when the mission begins, the game falls apart. Yawn.

7 ELVIRA II (Accolade)
The busty one returns for another ripping RPG adventure which this time sees the player attempting to track down Elvira's kidnappers and set her free from her movie studio confines. Atmospheric graphics and some well-thought out levels make this an engrossing game, but not a patch on the gory original. CU Amiga Rated 71%

8 SHADOWLANDS (Domark)
Yet another RPG makes the top twenty and this is one of the best. Taking control of four wandering adventurers, you must fight your way through massive caves and dungeons in search of your earthly remains. Features Teque's Photoscape lighting technique which cast ominously dark shadows on each level and creates and electric atmosphere. CU Screenstar, 91%

9 ULTIMA 6 (Origin)
There simply isn't any other game out there with the depth of the *Ultima* saga. It all begins one stormy night when, after stuffing your face with pizza and a rerun of 'I Love Lucy', a mysterious light warps you into the fantastic realms of Britannia at the start of a magical quest. This is certainly the best in the *Ultima* series and has been especially recoded for the Amiga. A fantasy role-playing treat. CU Superstar, 95%.

10 TITUS THE FOX (Titus)
Another new entry and deservedly so. Set over sixteen levels, the race is on to track down Titus' kidnapped girly, Foxy. In your way are sword-wielding nomadic tribesman, bottle throwing down and outs, skin head thugs and all kinds of nasties. This is definitely the French team's most polished platform game yet, even better than the highly acclaimed *Blues Brothers*. CU Screenstar, 91%

11 CASTLES (Electronic Arts)
Touted as a Middle Ages' *Sim City*, *Castles* lets the player design and build their fantasy castle and then defend it from all-comers. The more complicated your design, the longer it will take to build, and you're liable to run out of cash if you get too carried away. Once you've built your castle, you'll then have to defend it from envious Celts who desperately want to take possession of your abode. CU Amiga Screenstar, 88%.

12 ROBOCOD (Millennium)
Still hanging in there, Millennium's James Pond character resurfaces in a souped-up sequel. This time he's kitted out with a bionic midriff which lets our fishy friend expand his body upwards. There are lots of traps and puzzles dotted about each level and some of the graphics are very detailed. Suffers from poor scrolling in parts. CU Superstar, 93%

13 JIMMY WHITE'S SNOOKER (Virgin)
Without doubt the best snooker game to have graced any home computer or video game. The simple user-interface lets you attempt almost any shot imaginable and the attention to detail is superb. Lots of nice touches, such as a fly wandering across your monitor and face-pulling balls, add a humorous element to the proceedings. CU Screenstar, 90%

14 ANOTHER WORLD (Delphine/U.S. Gold)
Delphine's comic book adventure opens up a new style of gameplay. It's a brilliant mix of animation, puzzling, and arcade shoot 'em up. The game revolves around a research analyst who's been catapulted into another dimension. Surprises at every twist and turn, with little left to the imagination. Not to be missed. CU Screenstar, 91%

15 PGA TOUR GOLF (Electronic Arts)
This is probably the best Golfing game in history, if it wasn't for quite a bit of necessary disk swapping and the release of Microprose's golfing epic. The game is still challenging, with over 16 pro golfers to compete against, over several different tournaments. The action replay facility is annoyingly at the computer's discretion, but somehow all the more rewarding when you achieve a shot deemed worthy of this accolade. CU Superstar, 93%

16 LEISURE SUIT LARRY V (Sierra)
Lovable lad, Larry, is currently working for a cable porn channel and, as the ratings take a nose-dive, Mr Big comes up with the idea of a tacky 'Blind Date' style show. Larry is picked to host the show and is given the task of tracking down the sleaziest old boiler in the country. Interaction is limited to the constant clicking of the mouse button to skip through the reams of text. Nearing the end of its run. CU Amiga Rated 82%

17 POPULOUS 2 (Electronic Arts)
One of the best games ever released. No kidding. Basically the same gameplay as *Populous*, only everything has been improved to perfection. Try to become more powerful than Zeus by defeating a series of Greek Gods and mythological creatures. A genuine classic. CU Amiga Superstar, 97%

18 PINBALL DREAMS (21st Century)
Designed by top demo outfit, Silents, there are four tables on offer, all based on real-life tables but tarted up so that copyrights aren't infringed. Each table is three screens long and there's an adequate selection of sound effects, but inevitably the tactile feel of the real thing is lost. CU Amiga Rated 83%

19 INDY HEAT (Storm)
Leyland's superb coin-op makes it onto the Amiga and is a very playable conversion. All the options are in place, including the all-important turbos, and each race track features some devious turns and ragged straights. Unfortunately, there are only ten one-screen tracks to compete over and things become a bit pedestrian after a while. CU Amiga Rated 80%.

20 LEMMINGS (Psygnosis)
There can't be many people who don't own a copy of this infuriatingly addictive game. Over a year in the charts, and it's still selling, a testament to its originality and brilliant gameplay. The basic aim is to guide a group of lemmings across a horizontally scrolling landscape. On their way, the mop-top tribe display their suicidal tendencies by attempting to jump of any convenient ledge. By using a set of icons, it's possible to guide them to safety although there's also a devious puzzle or obstacle to solve on each level. CU Amiga Superstar, 94%

Chart supplied by MicroByte

MICROBYTE CHARTS
From this month onwards, CU Amiga have teamed up with Microbyte, a nationwide chain of computer stores, to bring you the very best Amiga charts appearing in any magazine. Using Electronic Point of Sale (EPOS) systems, Microbyte can monitor each title's performance on a daily basis, thus providing the most up to date information at the click of a button.

TOP TEN BUDGET RELEASES

1 RAINBOW ISLANDS (Hit Squad)
2 JAMES POND (GBH)
3 F16 COMBAT PILOT (Action 16)
4 1st DIVISION MANAGER (Codemasters)
5 KICK OFF 2 – Giants of Europe (Anco)
6 TOYOTA CELICA RALLY
7 POPULOUS (Star Performers)
8 PAPERBOY (Encore)
9 ROBOCOP (Hit Squad)
10 MIDNIGHT RESISTANCE (Hit Squad)

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WHAT THE TEAM ARE PLAYING
Dan Slingsby – Project X, Space Crusade, Quick and Silva
Steve Merrett – Larry 5, Addams Family, Parasol Stars
Steve Keen – Fire and Ice, Eye of the Beholder II, Harlequin
Tony Dillon – John Barnes, Space Crusade, Castles

well schooled in the amiga

In the first of a new monthly educational column, Mike Gerrard takes a look at the intriguing uses to which the Amiga is being put to in classrooms up and down the country.

SCHOOLS OUT

An increasing number of education authorities are saying 'Could do better' when it comes to the computers they've been used to using in the classroom. They're turning their backs on the traditionally 'approved' machines like the BBC and Nimbus, which have long had a stranglehold on the British education system, and are looking instead to more exciting and economically priced computers – like the Amiga, which is roughly half the price of the Acorn Archimedes.

In the past, micros have been stuck with labels: the PC was a business machine, the Amstrad PCW a word-processor, the Amiga a games machine and the BBC an educational machine. At last people are waking up to the fact that to regard the Amiga as purely a games machine is like having a car and only ever revving the engine. While it IS a supreme games machine, it is also ideally suited for conventional tasks like word-processing, for art and music, and for specialist subjects ranging from creating knitting patterns to helping with dyslexia. In a world of cross-curricular activities, what better than a cross-curricular computer?

SHAPE SHIFTING

Art and design is an area where the Amiga is proving particularly popular, with its easy ability to manipulate shapes, and the chance to doodle and experiment with patterns and colours. The Amigaknit program is used in the Home Economic departments of many schools, allowing pupils to create designs on-screen, and then either print them out to any Brother knitting machine, for an instant cardigan. Presumably they use a scarf socket?

The Blake School in Bridgewater, Somerset, uses the Amiga 500 for art design and appreciation. Their IT co-ordinator, Mel Petty, feels it important that the pupils come to see the Amiga as another artistic tool, like a brush or a piece of charcoal, but one that's capable of its own unique results. It isn't only skilled artists who benefit from the computer, however, as the Blake School has found, in particular, that pupils with reading and writing difficulties respond well to the Amiga. A computer is infinitely patient, and allows all pupils to work at their own pace, but children enjoy helping each other much more when a computer's involved, creating an air of cooperation rather than competition.

To bring the story round full circle you have the activities of Kent Education Television, otherwise known as KETV, and definitely not to be confused with KYTV. This specialist educational video production company uses three Amiga 2000s and three Amiga 500s at its studios in Dover to help produce top-quality graphics for its videos which, amongst other things, help to teach teachers how to teach. And not a computer game in sight.

GOING TECHNO

To get the most out of using computers in schools, you naturally need more than a single aged BBC-B machine, locked away in the stationery cupboard, and meant to provide for the needs of a class of 35 children. Most modern schools have whole armies of Amigas, such as the Dayncourt School in Nottingham, where 24 machines provide the school with one of the most up-to-date Information Technology departments in Nottinghamshire. Here pupils can use software packages that would cost the individual home user an arm and a leg: *Deluxe Paint, Deluxe Print, Publisher's Choice, Pen Pal* and *Superbase*, for example.

Another well-equipped school is the Feltham Community School in Middlesex, with 27 networked Amigas, mostly in the computer room, with others dotted around the school in the art, music and drama departments, and in the school library. The art department uses *Deluxe Paint* and various animation programs, one Amiga is used for textile design, others are being used to produce a school promotional video, and there's a flourishing Amiga-based Desktop Publishing set-up which not only provides for the school's own needs but raises funds by doing work for local businesses.

The man responsible for this activity is Tony Loughlin, Feltham's head of Business and Information Studies. One advantage the Amiga has, he says, is the so-called High Street effect. 'Many pupils now have 16-bit computers like the Amiga at home. They use them anyway, they're excited by them, they like using them. They can no longer say, 'Oh, the BBC's the boring old school computer that's got dreadful graphics'. Even the Archimedes, as good as it is, is the computer you only find in schools, not in Dixon's window or the average kid's bedroom. It's the Amiga you find them using there. Can you imagine them coming into school, after spending several hours playing games which have state-of-the-art graphics and sound, and the teacher having to try to excite them with a technically inferior machine? Plus they can do their homework on them, and just bring the disk in to work on the same machine at school. It also encourages them to see their Amiga at home as more than just a machine for playing games on.'

Another effect, to Commodore's delight, is that where Amigas are introduced into schools, a high proportion of teachers end up buying one for themselves. It's a snowball effect in that once the kids have become hooked at school they or their parents might also buy a machine to use at home.

GOOD ALL-ROUNDER

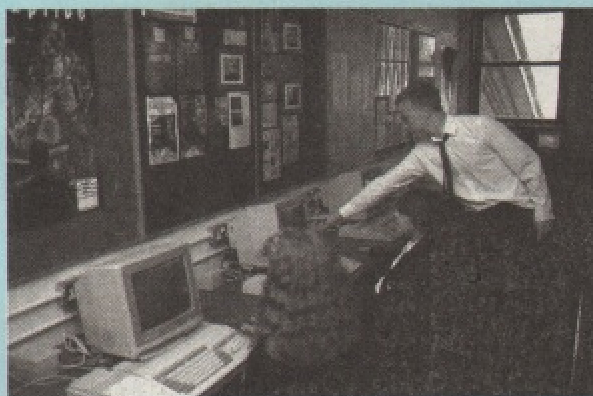
The versatility of the Amiga, and its wide use in lots of creative areas like film-making and design, benefits everyone. To expand on Tony Loughlin's point, it isn't the Archimedes and it certainly isn't the Nimbus that you find being used in design studios, TV studios, theatres, offices, music studios and just about everywhere else. This wide-ranging use creates a wide range of software, and schools can buy this too – and usually at an educational discount. Where a machine is perceived as being an educational computer, like the BBC, this inevitably has an effect on software developers who specifically target educational needs. If asked to design an art package for use in schools, would you come up with *Deluxe Paint*? And what's the point of mastering educational software in school, when you then leave and are faced with a range of different machines? There aren't too many BBCs in use in offices.

Obviously, schools aren't merely choosing Amigas because they're cheap and pupils are likely to have them at home. Educational demands still have to be met. 'There are two ways of approaching the National Curriculum,' Tony Loughlin of Feltham School explains. 'One is to follow it absolutely, to say that we have to cover this and that, and therefore allowing that to dictate your timetable. But there is another more creative way to go about it, which is the way we want to do it, and that is to decide what it is you want to do, in terms of project work and so on just as you did before, but then look at it carefully and creatively and be able to say, right, well in doing that project we are going to cover A, B, C and D on the National Curriculum. And the Amiga is ideally suited to this more creative approach.'

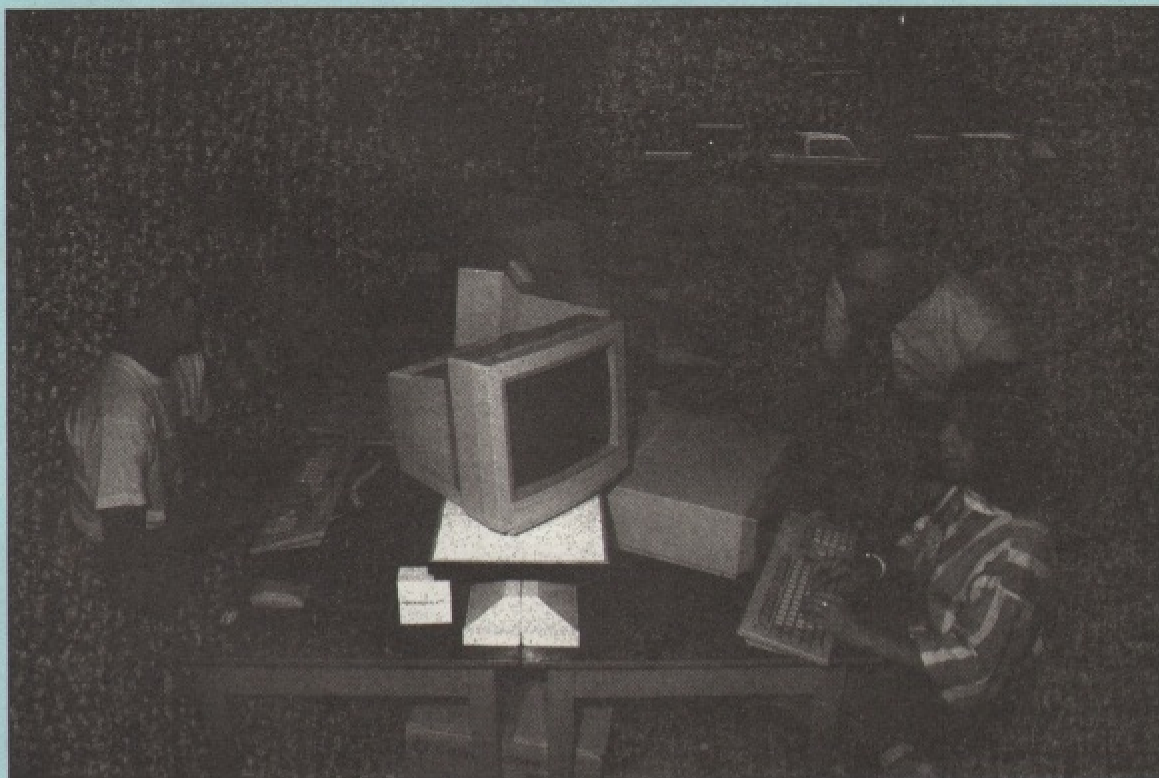
Can the Amiga satisfy the demands of the National Curriculum for music, though? The Atari ST has usually been regarded as superior to the Amiga when it comes to music, because it began with the advantage of having its own MIDI port, but that hasn't deterred the Birmingham Local Authority who recently invested in no less than 105 Amigas, primarily for use in art and music. They are currently being evaluated in Birmingham's eighty secondary schools, in particular at the Joseph Chamberlain College. Here a music technology centre has been created, and teachers are being trained in the use of the Amiga in music, in readiness for the new National Curriculum for music.

There are an untold number of uses to which the Amiga can be put. Educational establishments up and down the country are continually refining the way computing is taught. Gradually, the Amiga is moving out of its specialist ghetto and being used in math lessons, in physical education, art and design and many other areas on the school timetable.

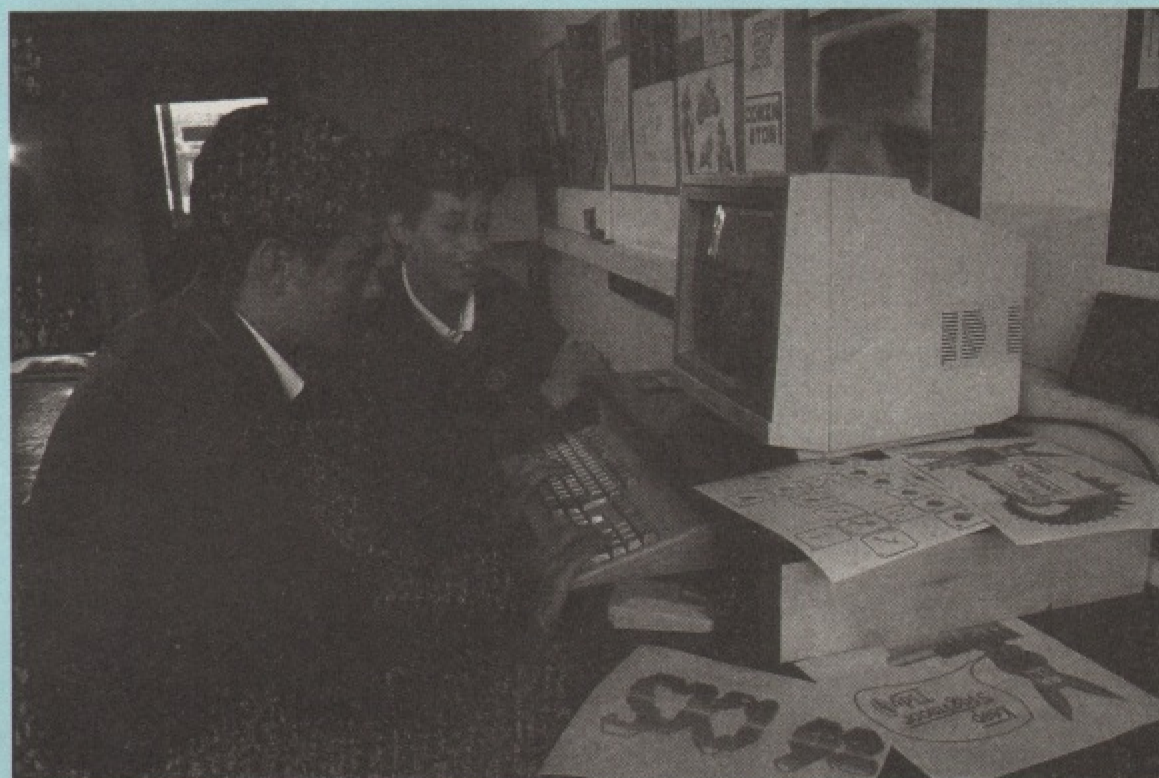
Over the next few months we'll be taking a look at some of the more interesting ways in which the Amiga has been put to work in the education field as well as reviewing all the latest software and technical innovations. If you're a student at a school or college which uses Amigas extensively, why not drop us a line and tell us about it?



A network of 27 Amigas forms the main computer backbone at Feltham Community School. A special DTP unit produces all the school's literature and booklets.



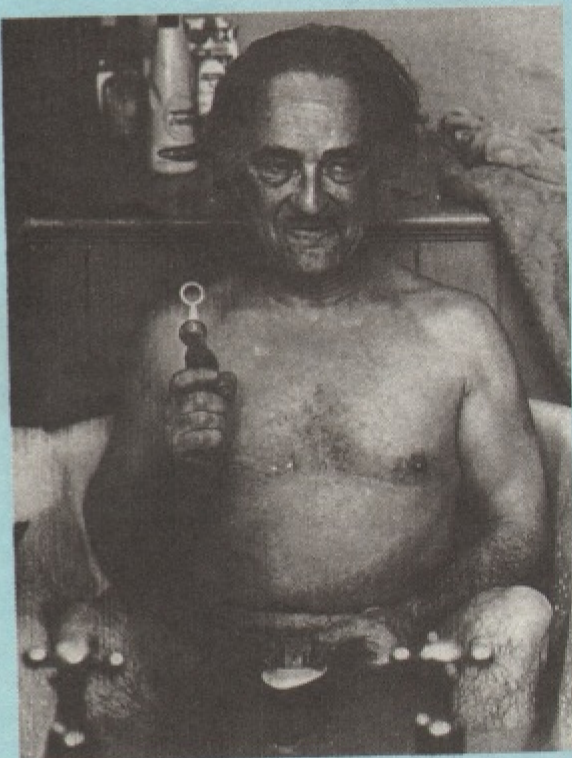
Dayncourt School in Nottingham has one of the most advanced network of Amigas in the country and pupils have access to a vast range of software including *Deluxe Paint*, *Deluxe Print*, *Pen Pal* and *Publisher's Choice*. Obviously the school has a big interest in DTP and various courses leave pupils well-versed in computer technology.



Children with special needs can benefit from Amiga technology. Blake School in Bridgewater, Somerset, have found that pupils with reading and writing difficulties respond well to the Amiga. It certainly isn't short of education software and many schools are even writing their own 'in-house' programs to cater for areas that aren't covered.

THINGS THAT MAKE YOU GO Hmmm...

How many times have you bought a game that's, frankly, below standard? Rik Haynes, European Editor of LOG-iN, asks if the Amiga has a bright future if publishers keep producing such rubbish?



DEJA VU

It's a familiar story: the eager software company, out to hustle for fame and fortune, spends a large amount of cash securing the rights to a hot movie license from Hollywood. Development budgets and schedules are stretched beyond their limits to accommodate the new game, and with little time and money left to get a product out on the streets, corners are freely cut. The end result is a disappointing game (Ocean's *Darkman* and U.S. Gold's *The Godfather* immediately spring to mind) that's hardly worth the asking price.

Ocean, at least, have gone some way to rectifying past offences with the release of *Robocop 3* and *The Addams Family*. However, poor software isn't solely restricted to 'film licenses', and the situation begs the question 'Why does this happen?' And, more importantly, 'Can it be prevented?'

As players clamour for more sophisticated games, better quality and more imagination is going to be the order of the day. There are no short-cuts to success. It's getting very hard for the mavericks to produce a stunning game on their own. Three of the best-selling Amiga games of recent times – *Formula One Grand Prix* (Microprose), *Robocod* (Millennium) and *Jimmy White's Snooker* (Virgin) – could be the last of the great creations from minnow companies who are being financially pushed out by the bigger fish. Games like *Populous II* (EA/Bullfrog) and *Shadowlands* (Domark/Teque) took a group of designers, programmers, artists and musicians many months to produce. A creative group of game engineers often bounce new concepts off each other, so it's important that these smaller sweatshops are encouraged in order to keep new, fresh, and untainted ideas coming. Ideas that are not induced by profit.

SEEDY CD...

Whilst the development fraternity makes its first steps into the new age of CD-ROM, the situation of lacklustre gameplay is going to get far worse. Costs will rise dramatically, while flashy presentation will try to make up for a lack of depth and playability. I doubt whether many outfits are going to take the sort of risks which result in something special. Let's face it, most of the stuff released so far on CDTV just doesn't make the grade. When it comes to CD-ROM, designers in Tokyo, Osaka, and Kyoto are way ahead of their counterparts in Manchester, Birmingham, and Croydon. Konami, for instance, has even set up a special technical institute in Kobe, to study the heavy concepts of making good CD games which take full advantage of the incredible machine's capabilities. The British division of Commodore can't even issue a permanent release date for the A570 CD-ROM let alone get the product itself out. Only Psygnosis, with the *Fractal Engine*, has shown this level of commitment to CD-ROM hardware and software.

So, what are other publishers in the UK and across Europe doing to ease this difficult transition period? Not a lot, actually. Surprisingly few companies are willing to invest in the future. They're too busy scrambling to make a killing on the 16-bit consoles from Nintendo and Sega, whilst dreaming of the day when that blustering old IBM PC becomes the ultimate games computer. Investment and training are seen as the key ingredients of a winning formula in Japan. Far-sighted managers in the land of the rising Yen have therefore set up schools to teach students how to create best-selling video games. If only Commodore had a strong presence in the Japanese market, then we could also possibly benefit from the results of this Samurai spirit.

Many observers have suggested Commodore should exercise a tighter control over the quality of software released on the Amiga and CDTV. Nintendo is ruthless in this regard. It cleverly used such a scheme to turn around the devastating video games crash in the USA eight years ago. This crafty Japanese corporation decided that there were simply too many mediocre games being released on other formats, and made sure this mistake wasn't repeated on Nintendo's Entertainment System. This could be the reason behind the smart card slot on the new Amiga A600 model? It would certainly make such a 'quality assurance' policy easier to implement – especially if Commodore is secretly sitting on a massive smart card stockpile in the Far East. The illegal copying of software would also become more difficult for the average hacker, cracker, pirate or whatever they call themselves these days. The downside is that smart cards are bloody expensive when compared to floppy disks, CDs and cartridges. Thus, the price of games would probably increase if they are used.

ETERNAL HOPE

I freely admit that the Amiga holds the potential to bridge the gap between video game console and expensive personal computer, but is it going to have an easy ride? I don't think so. Japanese and American firms aren't interested. Only the Europeans, the British and Germans in particular, still have the incentive and capability to push the Amiga further. It's going to be a crying shame if nobody is willing, and able, to handle the challenges ahead. Fast action is required to catch up. Publishers and developers must make a few tough decisions and plough more back into research and development. The channel of communication between punter and publisher should also be opened. Inform the offending company and, through the letters pages of CU Amiga, fellow players of the reasons behind any discontentment. It can't end there, though. New talent needs to find a forum to showcase ideas and work, and all the cowboys need to be frozen out. Only then will the Amiga stand a chance against the consoles.

LOG-IN is Japan's leading computer game magazine.

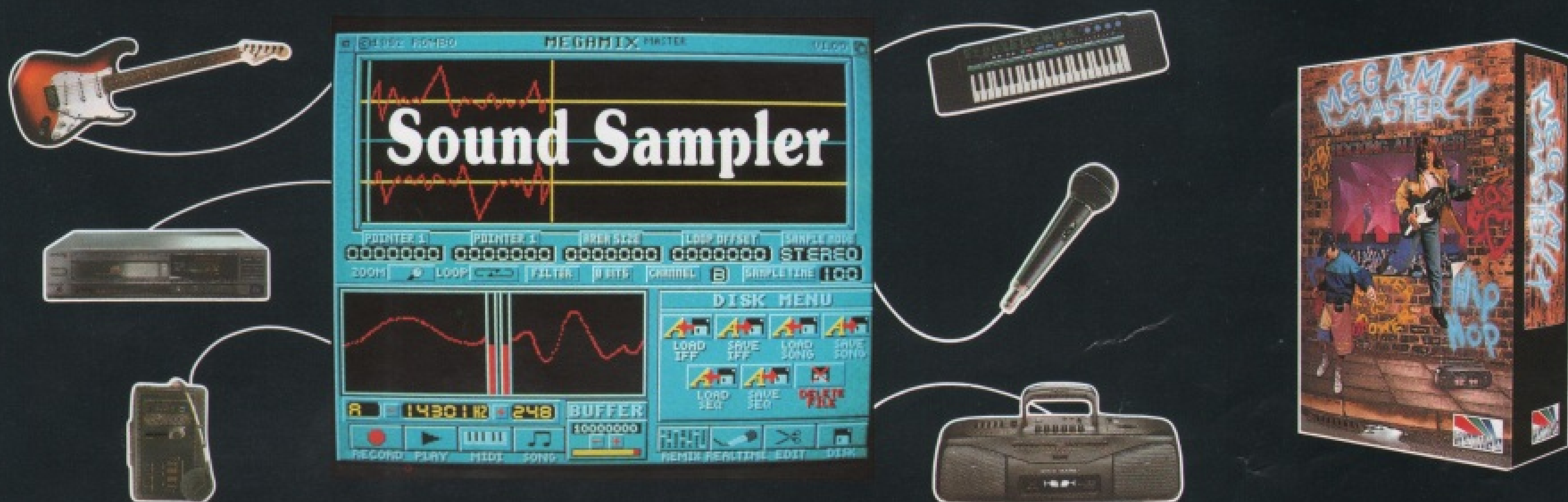
TOP TEN PERSONAL AMIGA HATES

1 Workbench has to be loaded from disk
2 Old software refuses to work on new machines
3 A floppy disk can be damaged if it's removed while the drive is working
4 Increasing cost of games is a pain in the ass
5 Games that ignore any additional floppy disk drives shouldn't be allowed
6 TV modulator could have been built in
7 Floppy disk drives continually click if there isn't a disk inside them
8 The position of the on/off switch on the power block really sucks
9 Most CDTV software is crap
10 Why are we still waiting for the A570 CD-ROM drive?





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CHOP-Removes all of the soundwave except for the sample between pointers.

DELETE-Erases the sample between pointers.

MIX-Mixes the contents of the cut buffer with the soundwave.

FLIP-Reverses the sample between pointers.

PLAY CUT-Replays the contents of the cut buffer.



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IN-Makes Sample between pointers start quietly and build up to full volume.

OUT-Offers the opposite effect to IN.

PHASER-Adds phase shift to your sample.

LOUDER-Adds volume.

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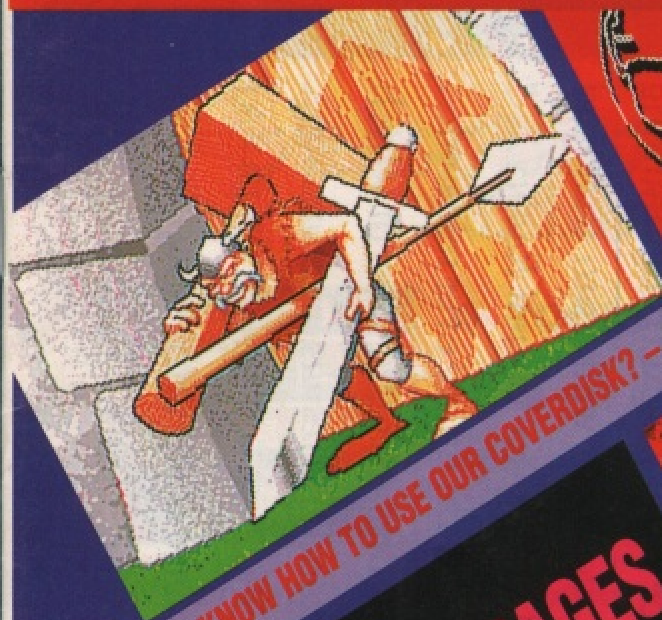
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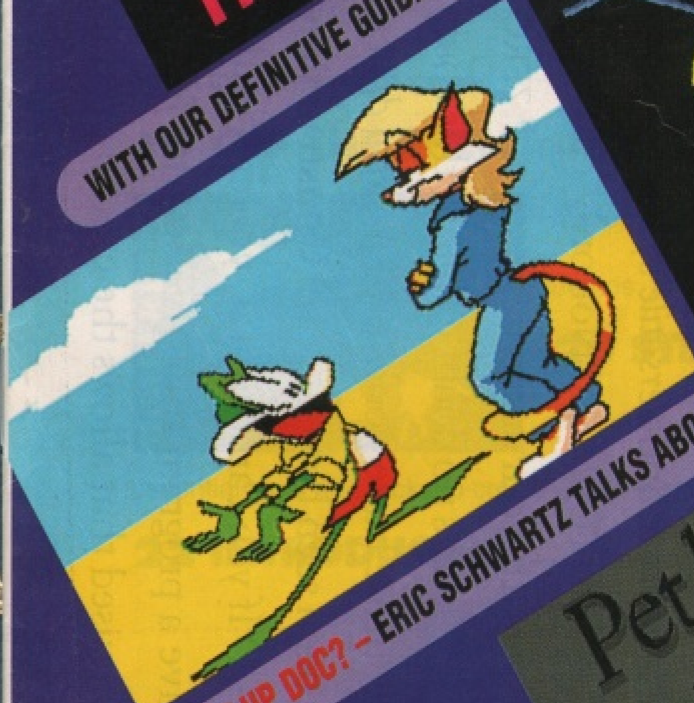
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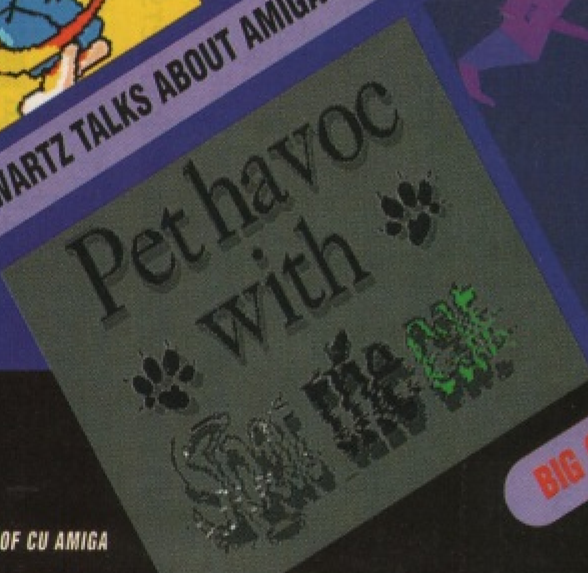
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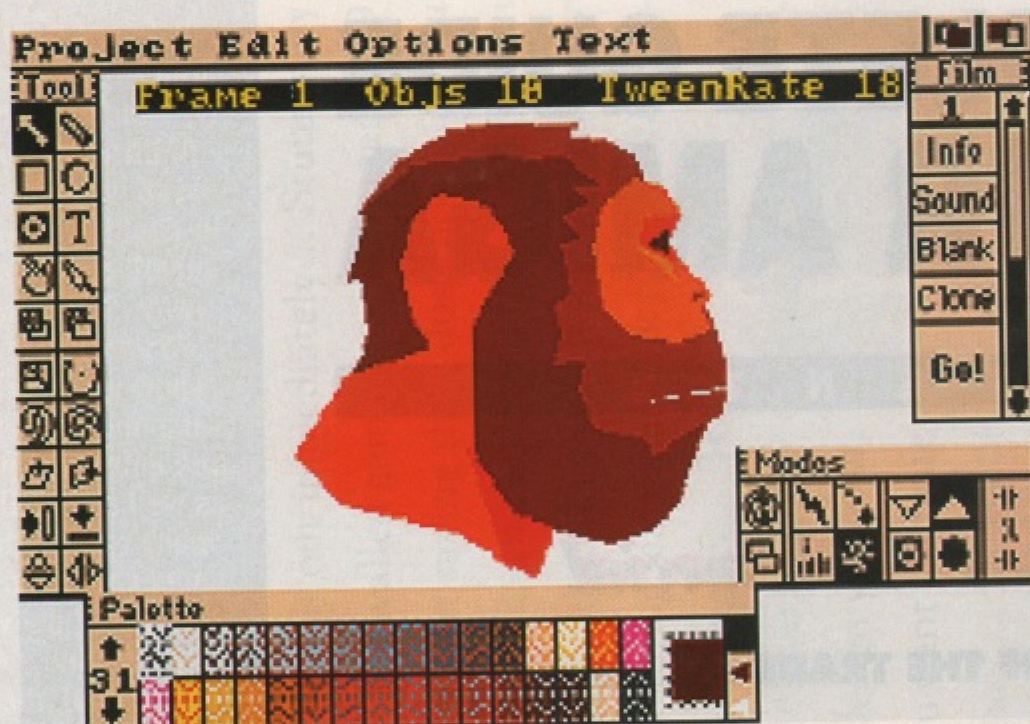
Welcome to the third free supplement to be bundled with CU AMIGA. Most of this issue is devoted to an in-depth tutorial on our superb coverdisk give-away, *Sculpt Animate 4D Jnr*. Inside we'll show you how to get the most out of your free animation program as well as detailing the many options that are under your control. Not only that, but we've also included a Buyer's Guide to all the most useful graphic and animation packages and an interview with Eric Schwartz, the man behind Flip the Frog and the Anti-Lemmings Demo. Rounding off the issue, Peter Lee reveals some clever animation short-cuts and Steve Merrett asks 'are game intros really necessary?'.



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This guide is a free supplement to CU-Amiga and is not to be sold separately.



Since Dan Silva unleashed DeluxePaint into the world, it's been the yardstick against which all other graphic packages have been measured. Peter Lee takes a look at Electronic Arts' award-winning package and its many contenders.

TOOLS OF THE TRADE

With almost as many sequels as the Star Trek movie, *DPaint* is still the program professional Amiga artists turn to first. Version IV's biggest leap was to incorporate a Hold And Modify mode into its vast repertoire – and a great piece of software suddenly became greater still.

Other programs have things to offer, but none seem strong enough to topple the Electronic Arts best-seller. Having said that, there's still some healthy competition out there. To help guide you through the pros and cons, we've taken a look at some of the most popular graphic programs and drawn up a handy comparison chart to help decide which package is for you.



Cartoon-style drawings and funny anims lend themselves to Fantavision's functions.

DPAINT DOES... DISNEY DOESN'T

Eagerly-awaited with a solid-gold name to back it up, *Disney Animation Studio* promised the world to animators. Judging from its mixed reception, though, it failed to live up to some expectations.

I was initially disappointed with the package – a none-too robust art program and a separate colouring program – but I have to admit it does grow on you.

When Disney started his massive entertainment empire, labour was cheap and plentiful and animators worked on individual cells, painting images (initially black and white, later colour) a frame at a time to build up the illusion of movement at the movies.

And so it is with the *Animation Studio*. You create each individual frame (with the benefit of onion-skinning – a technique similar to *DPaintIV's* light box for ghosting multiple frames on the same screen) and then play the sequence back. Clumsily, colour has to be added later – but that's how it happens in real-life cinematic animation.

The real nub of *Animator's* problem for me has been the lack of brush animation, which for the kind of work I do, is essential. In *DPaint*, for instance, you can have a brush twist and turn in 3D simply by entering numbers in a requester. To do the same thing in *Studio* would take an age, as each move in space would have to be done by hand.

This leads me to the conclusion that *Studio* is an interesting oddity in the current wave of animation programs for the Amiga – it is an historically accurate transition from the world of movie cartoons to the Amiga, but it won't pay the rent in terms of special effects (negligible) nor speed of use.

VECTOR GRAPHICS

Leaving the popular world of bitmap animation aside for a moment, the other kind – vector movement – has thrown up a couple of very useful programs.

Vector animation differs from the bitmap variety because it uses lines and polygons as its raw material instead of individually-coloured pixels. To use a simple analogy: if you move a rectangle



Polymorphic animation program Fantavision allows you to create images built up of polygons, then have them transform their shape,dynamically. Here a human 'evolves' into a Neanderthal ancestor in two frames; the transition is smooth and seamless as the polygons re-shape themselves to the finished image.



Animation editing made simple thanks to MovieSetter's friendly interface.

of colour in a *DPaint* animation, the block's entire area is shifted about in display memory but in an animation package based on vector graphics, the actual shape and perimeter of the polygon is re-calculated and filled in. This leads to very fast and fluid metamorphing, but obviously restricts the kind of subject you can tackle effectively.

First on the market, not long after the Amiga itself, was *Aegis Animator*, which can blend bitmap animation – galloping horses for instance – and vector animation. As far as I know, the program has never received the kind of overhaul it needs for today's sophisticated users. For instance, in accessing expanded memory. But you should be able to pick up a copy fairly cheaply, and it is fun to build up animations and tween them (watch them bend and stretch into other shapes in successive frames). In fact, Aegis were bundling it along with some other programs from their back catalogue in a value-for-money starter kit not long ago, so there's still some mileage in the program.

A nice feature, which would be welcome on bitmap animations, is the ability to change the palette on the fly, so polygon-based objects can fade in and out with ease after you have subtly altered their colours.

Probably the best-known vector animation package currently available is *Fantavision*. And while it's not as popular as *DPaint*, is does feature a big plus: sound. The user interface is comprehensive, if a little daunting to first-time users unfamiliar with cell animation, but it produces very smooth and useful transitions. Timing and integration of bitmap backgrounds is handled superbly.

Main uses for this kind of program – apart from a sizeable fun element – is for rough and ready cartoon strips and angular video transitions. *DPaint* has pushed these poly-morph packages into an unfortunately small niche, but they are still valuable to animators. However, I don't believe PAL versions of either program are currently available, so your displays will be restricted to the shallow-depth NTSC format.

SETTING THE SCENE

Many animation packages have come and gone in the Amiga's short life, but worth picking up are a couple of animation packages which still do a good job, despite their age. A favourite of mine is *Movie Setter*, from Gold Disk. Released in 1988 it actually outdoes the *Disney Studio* in a number of key areas, including ease of use and editing. Basically it's a cartoon studio in which your sets of animated brushes can move around IFF backdrops. In-built horizontal scrolling is a welcome feature for backgrounds, and both the editing and design elements of the program come together very well. Fun to use and capable of professional-looking sequences, it also features sound.

Occupying a cult corner of the market is *The Director* which is not so much an animation package as a programming language. Still, it has some powerful graphic manipulation features, including the ability to blit objects from one screen to another – enabling you to load in a single screen containing multiple drawings to be 'cut and pasted' onto the display screen. Anims and sounds can be played, and your extra memory can be used for storing in screens to make very fast transitions. It's similar to *AMOS*, another program on the fringes of the serious animation world, because



Before adding the blips and bloings of sound effects.

before anything useful can be done, you have to learn how to write controlling programmes. If you're up to the challenge, then the rewards of both items of software can be enormous.

Another useful animation package, which has had a lot of its thunder stolen by *DPaintIV* is *Spectracolour*, a HAM drawing package which proved a natural successor to *Photon Video*. *Spectracolour* had the 4096 colour market sewn up for a time, and deservedly so. Its brush transitions and colour manipulation far outdo *DPaint*. But it's not the all-rounder of its rival, and in any event, the resolution and fringing difficulties inherent in hold and modify mode prevent widespread use. The animation facilities it offers are not as powerful as *DPaint's* either.

PLAYING AROUND

Although *DPaint* has a wonderful player of its own, and version IV has passable editing functions in its light box tool, there still comes a time when serious editing or amalgamation are called for.

Deluxe Video is, again, almost as old as the Amiga, and the current version gives you total control of your animations. Not only can you load in


Animation editing made simple thanks to MovieSetter's friendly interface.

animbrushes and backgrounds, you can add sound and special transition effects too. Primarily a tool for video users, it is a sophisticated presentation package which offers pinpoint timing and a dream of an interface.

New this year is *Take 2*, Rombo's animation editor with in-built digitising software for their Vidi video digitiser. We took this full-feature package through its paces in our February issue. Since then the program has been upgraded to provide a more complete product, which really does make it even more useful, especially to Vidi Amiga users.

Animation frames from sources such as *DPaint* can be loaded in and edited precisely, and the plus is that you can synchronise sound too. The user interface is still daunting, but the benefits of cutting and splicing, and actually editing sequences of frames makes up for this.


HAM art package SpectraColour also boasts an animation feature, similar to DPaintIV's. Brushes can be moved through frames, with special transition effects in operation. Here the control panel can be seen at the bottom of the screen.

TOOLS OF THE TRADE

GRAPHIC & ANIMATION PACKAGES: WHAT'S GOT WHAT AND WHAT'S NOT

PRODUCT	DESCRIPTION	EASE OF USE	FEATURES	COMMENT
DeluxePaint IV	All-modes bitmap art and animation package.	•••••	•••••	The all-round all-time favourite.
Disney Animation Studio	Cell drawing, colouring and animation package featuring sound and excellent editing facilities.	••	•••	Long-winded but a faithful recreation of how the pro animators get on with the job.
Fantavision	Poly-morphic animation and sound with 2D bitmap brush animation feature.	•••	•••	Great for cartoon-style presentations; tough interface to master.
Aegis Animator	Poly-morphic animation, no sound, 2D bitmap brush animation.	••••	••	Old, past its sell-by date but a nice introduction to vector animation. Pathetic inability to use extra RAM.
MovieSetter	Cartoon-style animation presentation package with sound functions plus great editing interface.	•••	••••	Multi-option animator with a big fun factor.
Director	Script-driven image manipulation program.	•	•••	Will repay a lengthy investment in time. For those unafraid of hands-on programming control at text-entry level.
Deluxe Video	Animation presentation package with icon-driven control of scene editing.	•••	•••	One of the best ways to showcase your own animations. No drawing facilities, so you'll need a graphic package too.
Take 2	Animation editing suite; a complement to Vidi Amiga digitiser.	••	••••	Hard slog to master, but worth it if you intend manipulating your anims
Spectracolour	HAM only art and animation package.	••••	•••	A well-rounded HAM programme which still has a few things to show DPaint. Only working in HAM is a major turn-off.

NEW AND IMPROVED

While DeluxePaintIII was a landmark art package, it took the release of version IV for it to realise its true animation potential. Here's a quick guide to some of the best new options.

New to this now classic graphics package came the lightbox, for previewing movement, and the brush metamorph function.

To get the most out of the lightbox, you will need plenty of memory and should be prepared for some time-wasting delays on complex animation screens. But the benefit of seeing previous and forthcoming cells ghosted on the current screen is worth the overheads. Not that every animation will need this heavy-duty technique, only those that primarily have objects easing in and out of key frames.

For quick, easy and stunning animations, you can't beat the metamorph option. It might not always be accurate, and its sometimes clumsy with complex shapes and colours, but it's also a joy to watch whatever the results. It's just so damn clever!

The main problem with it is the restriction on the size of brushes to be changed. These can be quite big – but you'll find that they're never quite big enough! But size isn't too important and having the feature is.

Things to bear in mind are to keep brushes around the same volume, have matching colours in the brushes and give the brush metamorphing process enough frames to render a smooth transition.

BRUSHING UP ON TECHNIQUE

1

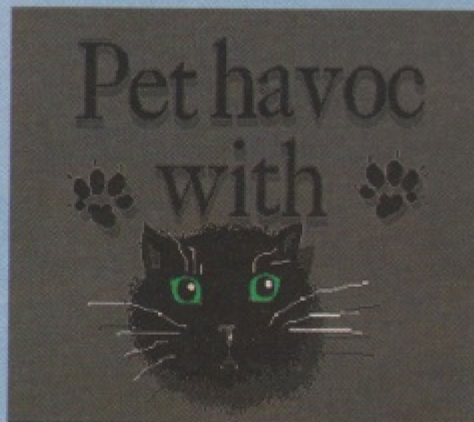
Once you have an anim brush, such as a metamorph transition, you can paste it into your animation automatically by holding down the left ALT key and pressing the left-mouse button whilst drawing with the line tool. This lets you draw a path across the screen for the anim-brush cells to follow.

2

To ensure your brush doesn't re-appear midway through the procedure, make the N total in the line requester control box the same number as their are frames, and make sure N Total is the activated option (it's usually continuous which is highlighted). Access to the line requester panel is achieved by clicking with the right button in the line tool from the menu palette.

3

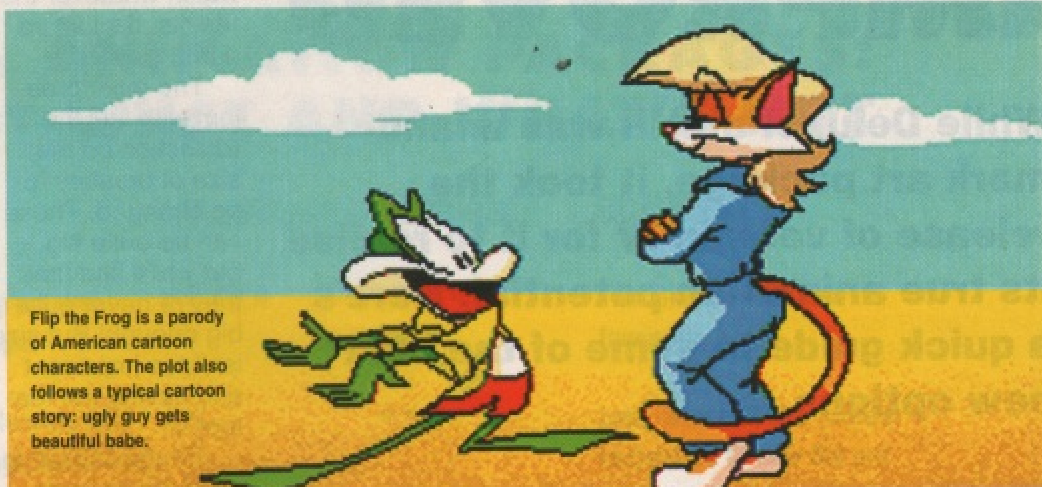
The morphing option often leaves you in the lurch by 'forgetting' what the original and end brushes look like. So keep a copy of each to paste down into extra frames at the beginning and end of the animation.



Using DPaint IV's brush metamorph feature lets you meld objects into each other. Here text transforms into a drawing. Brush sizes can't be too big for this feature, and a high number of cells has to be used to ensure fluid transitions. Colour, too, is important to help the program move like-coloured pixels around to make the transition believable.

SCHWARTZ UP DOC?

Without a doubt, Eric Schwartz is one of the giants of Amiga animation. Here he talks about his latest creation, A Day at the Beach, and tells us how it was done.



Flip the Frog is a parody of American cartoon characters. The plot also follows a typical cartoon story: ugly guy gets beautiful babe.

ANIMATED ANTICS

An animation supplement without featuring the work of Eric Schwartz? Unthinkable! So unthinkable, in fact, that we got on the Trans-Atlantic telephone to quiz the teenage animator about his work and, in particular, his latest demo.

A Day at the Beach is undoubtedly his most accomplished work to date. It's certainly the longest and runs for over two-and-a-half minutes with no noticeable gaps in the entertainment. The story concerns two of Eric's all time favourite characters, Flip The Frog and Clarissa the curvaceous cat. In an unlikely coupling, the amorous amphibian has taken his girl for a relaxing day in the sun at the local beach. In true Schwartz style the feline peels off her track suit to almost explode from its constraints to reveal a tiny bikini that sends the frog running into the sea to calm his ardour. On his return, the local life guard has already scoped his girl, and is well into his Charles Atlas routine as the babe nonchalantly gives him a cursory glance and shoos him away.

Flip sees red, and in a blazing trail of fire, speeds to the damsel's rescue only to find that the bulldog's legs are as hard as rock and proceeds to break all his teeth before being dispatched once more into the sea. Clarissa has now had enough and so finally stands up and, with a single punch, sends the dog flying through the air to land buried beneath a ton of sand. That's the basic story, but the 3Mb demo is packed full of laughs all executed with Eric's own distinctive and expressive style.

BACK TO THE FUTURE

We asked Eric where he got all the ideas from for his latest epic. 'I've always wanted to do another cartoon with Flip the Frog,' he says. 'The character initially came from a cartoon that was shown in the 30s which I'd caught on a rerun. I loved the frog's adventures and thought it would be great to introduce him to a new generation.'

So how did you decide on a suitable story to do him justice?

'Well the story came soon after I'd finished *The Dating Game* (another Schwartz classic starring Flip The Frog completed in 1991). I started putting together the demos in January and finished it about the middle of February, four or five weeks later. I worked pretty hard on that one, putting in one to five hours work a day on it. I usually start with a few sketches first and take it from there.'

Eric has a hardware set up that would make most people green with envy, but



This is the bad guy in the short animation. Eric's own dog acted as the inspiration for this guy – our guess is that Eric doesn't own a poodle or a Yorkshire Terrier.

surprisingly the software he uses is well within most people's grasp. 'I do everything on a 3Mb Amiga coupled with a 45Mb hard drive. After a great deal of thought, I draw preliminary sketches and scribble down a story-board. In this particular instance, I then used the *Disney Animation Studio* and worked for about three hours on some experimental animations. Once I'd got something that was just about right, in black and white, I brought it into *DPaint* and put some colour in. Then the really hard work started as I began to draw the backgrounds that I'd use later, still using *DPaint*.



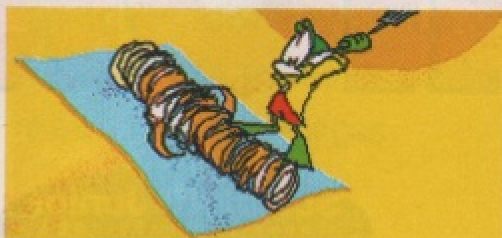


Eric's animation is aparse and is restricted to a few movements for each scene. These give the illusion of an active environment although little movement is actually taking place.

Take a note of all the different camera angles and close-ups Eric has used. Although tricky to pull off, they help to give a more polished look to his animations.

IN THE MOVIES

I then switched to *Movie Setter* which I think is the best animation tool on the market, even if it is getting a bit long in the tooth. The package is incredibly useful as you can split your drawings up into separate folders and move them about individually. It's here that I piece together the backgrounds with the animations and then add the sound. I've got a huge library at home with over 100 sampled sounds of all sorts of things that I delve into for most of the effects. If I need any speech, I either supply it myself (Clarissa's voice is actually Eric's speeded up), or get whoever's passing my room to do the honours. The old man in the bathroom in the *Late Night* animation is my father and the female Lemming's voice at the end of the *Anti-Lemmings Demo* is my mother's speeded up. The real difficulty comes in trying to sync the sound and animation together. *Movie Setter* only allows you to work in Hi-Res and 32-colours and it's quite slow, so anything that needs to be faster than 10 frames per second I tend



Eric has many more Flip adventures awaiting animation and another adventure will appear soon, he promises.

to use *DPaint 4* . To be honest, it's all a case of trial and error, but well worth it when you get it right.'

Eric hasn't always been animating on a computer and before he discovered pixel perfection he was doing elementary clay stop-start animation and cut-out stop-frame films with his own



Some of these scenes would not look out of place in a Hanna Barberra or Tex Avery cartoon.

admirable drawings. 'This summer I might be doing a film,' says Eric. 'It'll be with Amy and all the animation will be on the Amiga, but distributed on video.' Eric usually gives his demos to local user groups when they're completed and is amazed at the speed in which they're available over here, on our own PD circuit, about two weeks later.

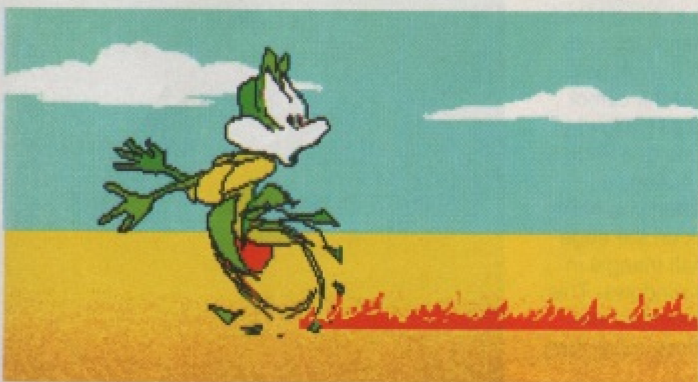


Here the scene totally changes from a fun day out to an intimidating situation by tight cropping.

RAINING CATS AND FROGS

The last time we spoke, Psygnosis had approached him to discuss the possibility of producing an intro for one of their games. 'I haven't heard from them recently, but they were very complimentary and the American division actually paid me for the use of a *Lemmings* animation I'd done for a show.' Team 17 were also rumoured to be after his talents. 'Once again, the distance between us has meant a slight hiccup in communications. Initially I was working on a *Super Mario*-type game called *Super Frog and Friends*. Then they switched me to a racing game called *Joyride* and now I'm supposed to be on a new project, so I'll just have to wait and see what happens next. I'd heard that Tobias Richter had done some work for them also for a game called *Alien Breed*. He's one of the people I admire most in the demos field so I'm looking forward to seeing that.'

Asked about his next project, Eric is naturally very cagey. 'I find it very difficult to talk about what I'll be doing next because, in all honestly, I don't know. The last couple of Aerotunes, *Shuttle Cock* and *Vietnam Conflict*, I did in a couple of days, the later only took five hours so I'm getting an itch to do one of those again. I was thinking of including a cameo appearance by Amy the squirrel in *A Day At The Beach*, but what with memory restrictions, it became impossible. The *Stealthy* animations are a lot less restricting. I basically work on them pretty much as you see them,



In his fury, Flip inadvertantly misses the mark and shoots straight past his beloved.

from beginning to end. One idea I have is for an A-10 Thunderbolt skit, a huge military aircraft known over here as the Wart-hog. It'll home in on a tank and have a wild chase through the mountains before the final show down. Yeah, that sounds like a fun thing to do.'

'I'm also thinking about doing another





What really sets Eric apart from other animators is his constant attention to detail and his command of different facial expressions.

female juggler animation called *Jugglette* and I'm itching to do a sequel to the *Anti-Lemmings Demo*, so that'll probably come first.' Phew! With that work load, it's enough to make you glad you're a talentless creep!



Down, but not out. I'm sure he'll be back!

SCULPT ANIMATE 4D JUNIOR

You've got the free giveaway program, you've read the quick user guide printed on this month's Coverdisk pages, and now you want to take a closer look at *Sculpt Animate 4D Jnr*. Rest easy, as over the next six pages, Tony Dillon explores the finer points of this superb 3D graphic and animation program.

Sculpt 4D Junior
Copyright 1989-1992
Byte By Byte Corporation.
ALL RIGHTS RESERVED.

BASIC PRINCIPLES

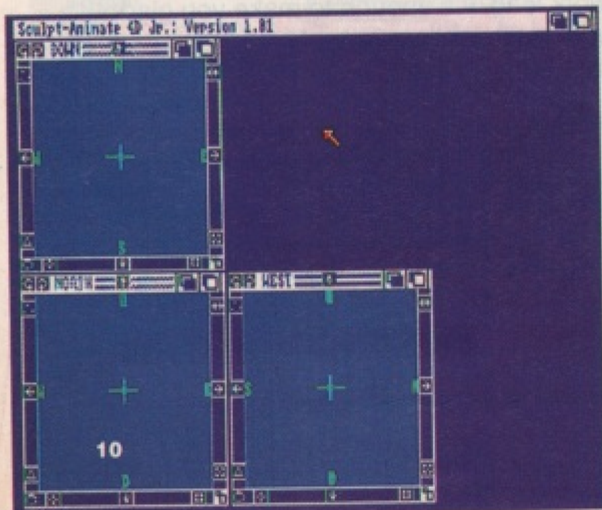
Sculpt Animate 4D Junior has been designed to let you, the user, create and animate complex 3D scenes with a simple entry method and the minimum of mathmatical or technical knowledge.

All objects are broken down into three components. The smallest is the vertex, which is a single point anywhere on a shape.

Vertices are usually corners of objects, and are connected by edges. These straight lines give the shape a wire frame appearance, but won't actually register anything until you turn the spaces enclosed by edges into faces. Faces are always triangular, and tell the program to display that particular area as a solid block. Triangles can be placed together in any way and to form any shape. Here's an example of how a cube would be broken up into triangles.

THE TRI-VIEW WINDOWS

All objects and scenes are displayed in these three windows which represent your view on the object if you were (a) above the object looking directly down at it, (b) south of the object looking north and (c) east of the object looking west. When cross-referenced, these three windows give you an instant impression of the 3D shape, and give you complete cursor control in a 3D area. To place the cursor in a particular position, first left click in the Down window to position the X and Y co- ordinates of the cursor, and then click in either of the two remaining windows to position the height. Simple isn't it.



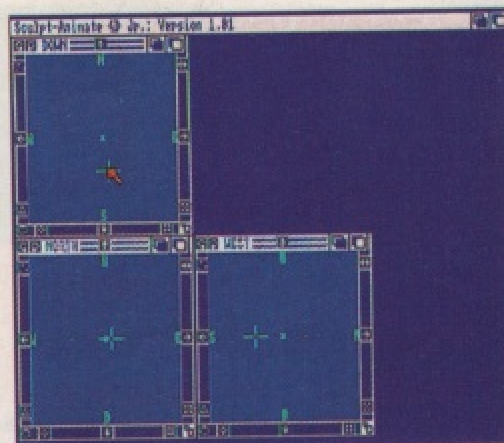
OBJECTS, IMAGES AND SCENES

Throughout the program and these pages, you will hear things referred to as either an Object, an Image or a Scene. To explain, an Object is a collection of highlighted connected vertices, an Image is a rendered picture and a Scene is the entire highlighted area you are creating in, including lamps, observer positions and objects not currently in the tri-view windows.

CREATING SHAPES

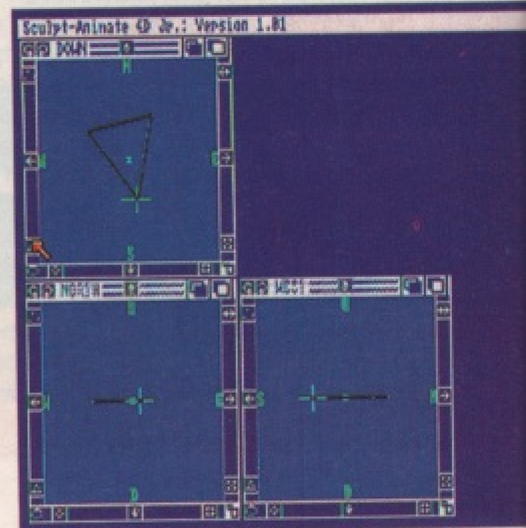
To create a shape, first vertices have to be created. Position the cursor in the way just described, and then click the right mouse button with the left held down. A small yellow dot will appear at the cursor position. Vertices can be either selected (yellow) or deselected (black). To change the state of a vertex, double click on it with the left mouse button.

Next, edges have to be placed. When you have more than one vertex on screen, click on the edge builder gadget, which looks like a small triangle in the bottom left of each of the tri-view windows. This will connects groups of two or three selected vertices with straight black lines. If you have more than

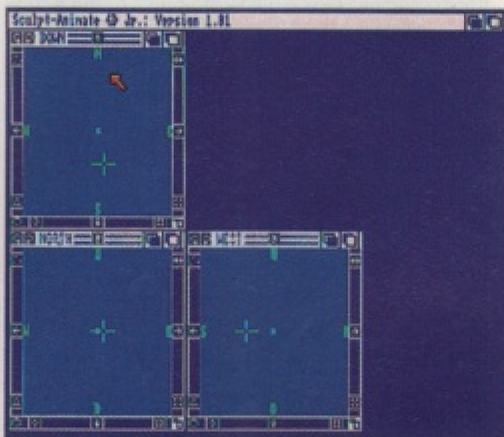


three or less than two highlighted, the gadget won't work.

Every triangle formed is a face, and will be displayed. Any other shape won't, so remember to

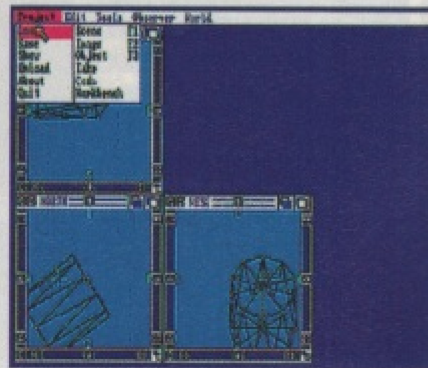


break up other shapes into triangles by using the Edge Builder option from the TOOLS menu in the bar at the top of the screen.



THE MENU BAR

The menu bar at the top of the screen is full of all sorts of exciting options. A full guide to all these options follows, with the menu heading marked with a number, the name of the option in capitals, and sub-options in normal case.



1) Under PROJECT

LOAD:

a) Load Scene
b) Load Image
c) Load Object
These three options load previously saved files into the current tri-view window.

d) Load Take
This gets animation files from a selected disk. If you name a file that isn't present on the disk, a requester will ask you if you want to create a new take. Click on Yes to start a completely new animation.

e) Load Code
Loads the program code back into memory. For more information, see UNLOAD CODE.

f) Load Workbench
Loads the Workbench screen and places it behind the Sculpt screen. For more info, see UNLOAD WORKBENCH.

SAVE:

a) Save Scene
b) Save Image
c) Save Object
These save respective files to disk. Remember to highlight objects before you save them!

SHOW:

a) Show Image
Shows the last image generated, if any has.

b) Show Preview
Loops through the last generated animation, if one has been. If no Takes have been set up since boot-up, then this option will not be accessible.

UNLOAD:

When memory is running low, *Sculpt 4D Jnr* may not be able to function fully. The four Unload options give you a chance to recover some of that much needed RAM space.

a) Unload Image
Clears the currently stored image. Don't worry, it only removes it from memory, so make sure you have it saved to disk before you unload it.

b) Unload Preview
Removes the currently stored wire frame animation. Animations can take up massive amounts of memory, even when compacted, so keeping this area clear is sometimes essential.

c) Unload Code
Sculpt 4D Jnr is a massive program, that uses up a lot of space in itself. However, no one can be

THE TRI-VIEW GADGETS EXPLAINED

On each tri-view screen are positioned a number of gadgets/icons which perform different functions. Here we list the most important and explain what function each one performs.

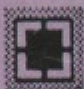


REVERSE

This changes the view direction of the current window to its opposite. For example, in the north window, selecting this places you north of the object looking south.

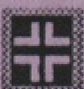
MOVE TRI-VIEW

These scroll the view in the tri-view around the scene, allowing you to work on other parts of your picture, such as different objects.



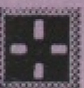
EXPAND TRI VIEW

This increases the size of the view in the Tri-View window, letting you see more of your current scene.



CONTRACT TRI VIEW

This decreases the size of the view, zooming in on the centre of the view.



CENTRE TRI VIEW

This centres the viewpoint on the cursor position, and is a faster way of making an object the centre of attention.



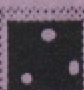
GRABBER

This gadget is used to move selected points around the scene. Select the vertices you want to move, and then click on this to activate the grabber. All selected points are moved at once with the left mouse button moving the points in relation to the new cursor position. This can be used to move whole objects, by selecting all the points in the object, or to stretch and deform objects by pulling some of the vertices. Click on the icon again to deactivate it.



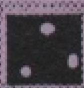
EDGE BUILDER

Not to be confused with the tool in the TOOLS menu, this automatically connects pairs or groups of three selected vertices.



SELECT/DESELECT

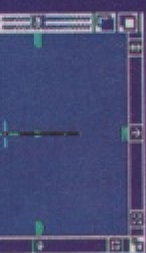
This icon either selects all the vertices in the tri-view or deselects them, dependant on the state of vertices in the window.



ROTATE

These two gadgets rotate all selected vertices about the current cursor in steps of five degrees. If used in conjunction the left ALT key, the rotation is only 0.1 degree. Used with the left Amiga key, the rotation is 1 degree. If the right Amiga key is used, it's 45 degrees and with right ALT it's a whopping 180 degrees.





SCULPT ANIMATE 4D JUNIOR

expected to be using all of the features and tools all of the time, and this command clears all the unused features from memory, creating masses of space for all your work. You can still access all the features, just wait for them to load from disk.

d) Unload Workbench
Once loaded, you probably won't find the need to keep Workbench running, so this option empties the memory Workbench occupies.

ABOUT:

Gives details on your version of *Sculpt Animate 4D Junior.*

QUIT:

Exits the program and returns you to workbench.

2) Under EDIT

SELECT/DESELECT:

(All deselect options have the opposite effect to select options)

a) Select All:
Highlights all vetrices in the tri-view windows. A lot easier than double clicking everywhere!

b) Select Connected:
This only highlights the vetrices that are joined by edges.

c) Select Indicated Vertex:
This is the equivalent of double clicking the left mouse button over a vertex.

d) Select Swap:
This reverses the state of all vetrices in the current window. Selected become deselected and vice versa. This comes in handy when you have a large, complicated object with only a couple of other vetrices on screen. Select the few free vetrices then perform a Select Swap to highlight your more complicated object.

e) Select Indicated Edge: Place the cursor on an edge before using this command. When performed, it selects the two vertices at either end of the line.

ERASE:

a) Erase Selected Vertices: This is used to remove all highlighted points. All edges leading from these points are also erased.

b) Erase Selected Edges: This just removes the edges between selected vertices, not the vertices themselves.

c) Erase Indicated Vertex: Place the cursor over a vertex and use this to remove it from the scene.

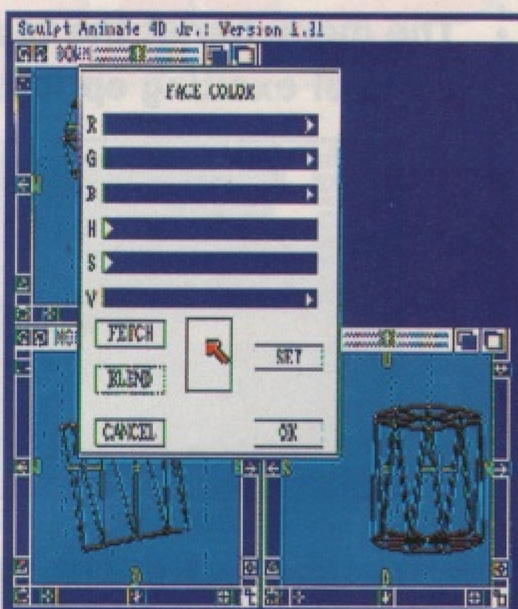
d) Erase Indicated Edge: To remove a single edge, for example one you placed by accident, place the cursor over it and use this function.

e) Erase Indicated Lamp: To remove a lamp from your scene, place the cursor over it, and then the mouse pointer over this option.

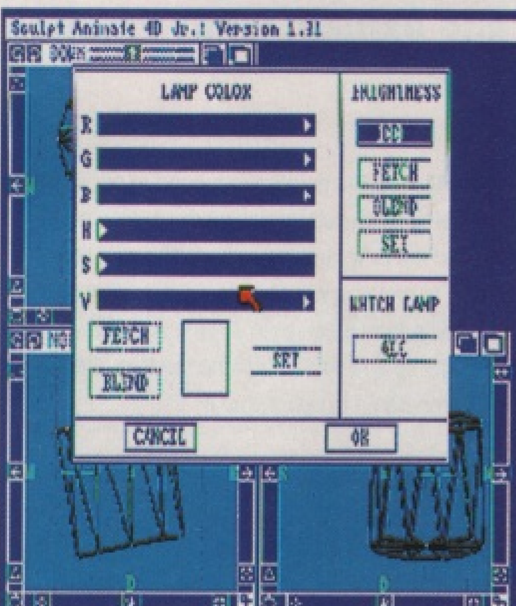
f) Erase All Lamps: Places scene in darkness.

g) Erase All: Clears everything from the scene. If you have a take in memory, the program will ask you if you wish to erase that as well. Erase only dumps if from memory, not from the disk.

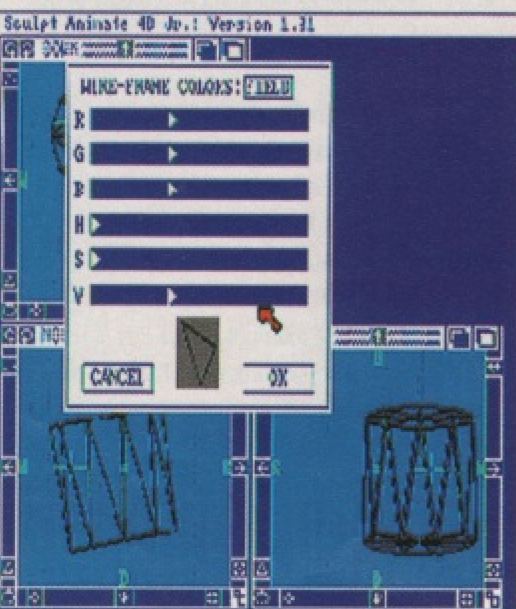
MODIFY:



a) Modify Faces:
The Faces requester pops up on this command, allowing you to change the default colour of faces as well as change the colours of already defined faces through careful use of slider bars.



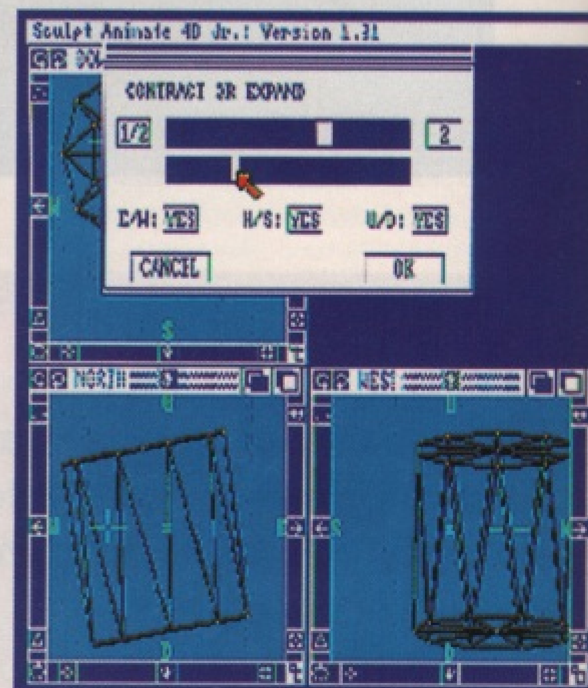
b) Modify Lamps:
Like the Faces requester, the Lamp requester allows you to change the default colour and brightness for new lamps, as well as change defined lamps.



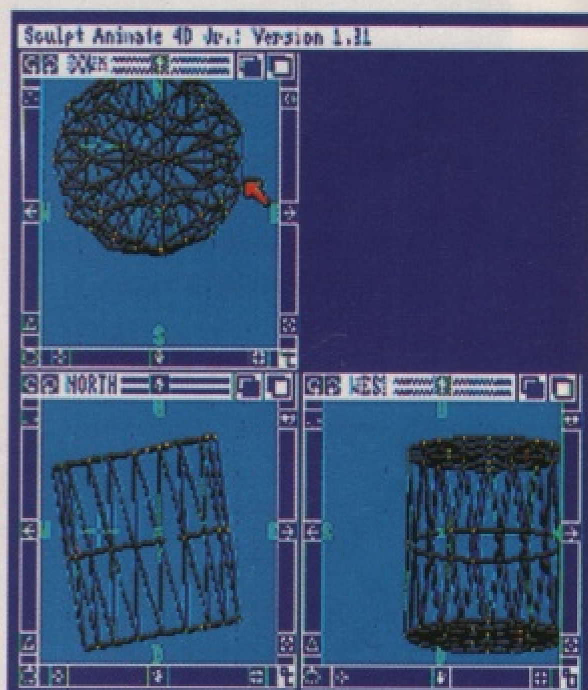
c) Modify Wire Frame Colours:
This option lets you change the colours of wire frame images from boring but clear two-tone grey to more exciting brown and purple.

d) Modify Take: This is the heart of the animation programmer. It contains two separate requesters, Global and Frame. The default is Global, but you can change it by clicking on the requester name at the top of the box. For more information, see the Animation Box.

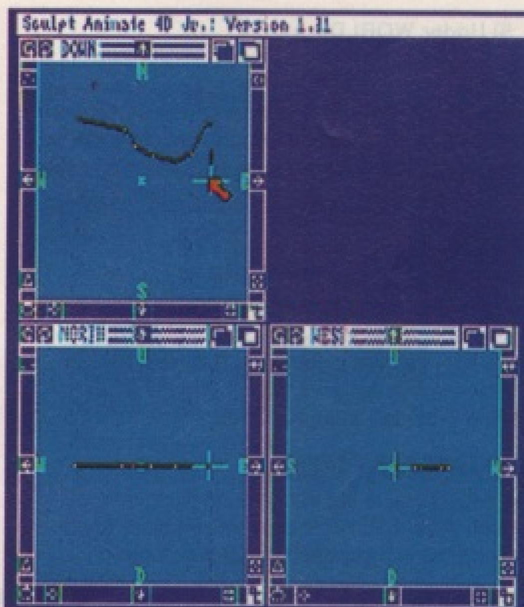
DO:



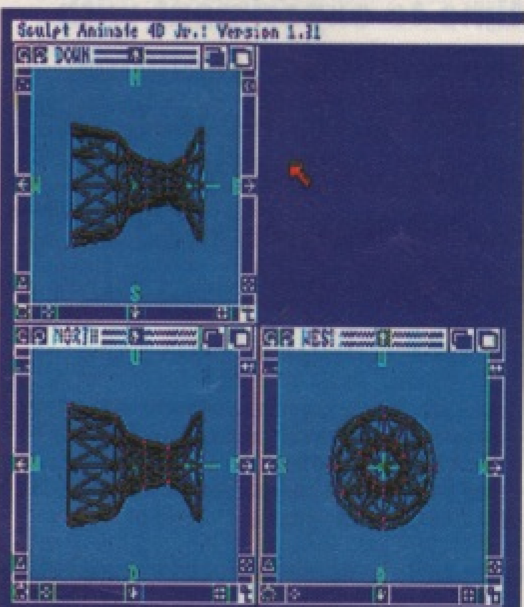
a) Do Expand:
Using this along with a set of selected vertices allows you to expand the set, i.e. move them all apart a specified distance. This is useful in the case of a sphere or a hemisphere that has been subdivided, yet its appearance hasn't changed. Selecting all the new points, and then expanding them slightly using the slider bars gives the sphere a more rounded appearance.



b) Do Subdivide:
This places a new vertex at the centre of every selected edge, and then connects them, giving an object twice as many edges and vertices as before.



c) Do Spin:
This draws a 3-dimensional round object of a shape defined with the curve tool and currently selected. All highlighted edges and vertices are swept about a line that extends horizontally from the cursor position. A requester will appear asking you how many steps there should be in a full turn, and then in which direction the sweep should go. At default this is 360 degrees, but feel free to experiment.



d) Do Reflect:
Highlight an object and place the cursor next to it. Using this option places an identical copy of the object on the opposite side of the cursor.

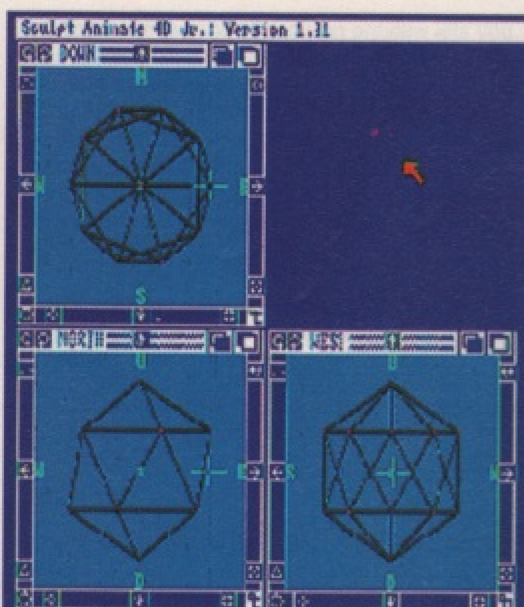
e) Do Make Tri-View Small: This sets the size of the tri-view windows (not the area they show) to default.

f) Do Make Tri-View Big: This blows the Tri-View windows up so they fill the screen.

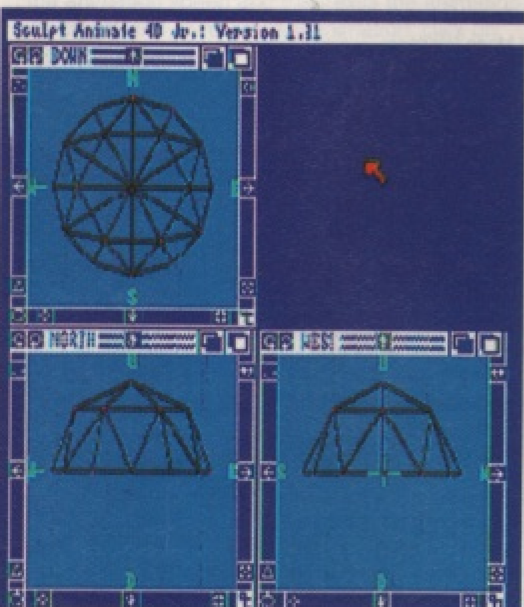
ADD:

a) Add Duplicate: This makes an unselected copy of a selected object or set of vertices. The copy won't be visible until you move the selected original with the grabber.

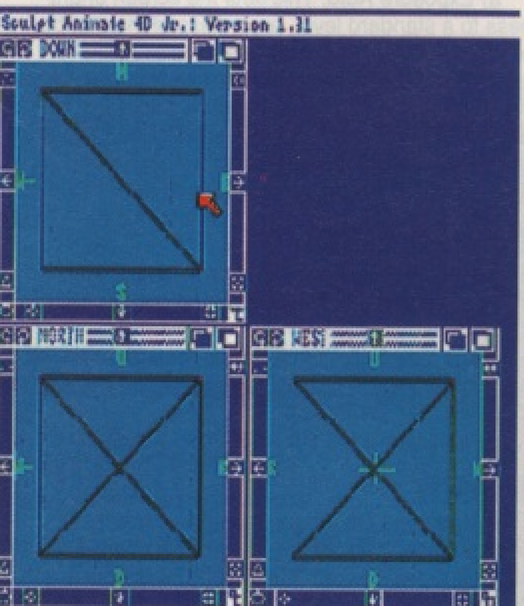
b) Add Sphere: This creates an approximation of a sphere and fills the current tri-view window with it. A requester will appear asking you how many subdivisions you want. The more you have, the more detailed the shape will appear, and the more memory it will consume.



c) Add Hemisphere:
This adds a hemisphere to fill the current tri-view. Again, you are asked how many subdivisions you want.

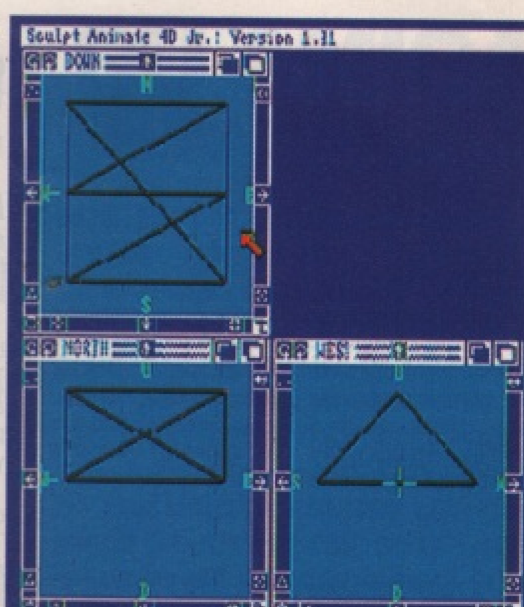


d) Add Cube:
Adds a cube to fill the tri-view.



e) Add Prism:
A triangular prism appears inside the tri-view.

f) Add Disk:
g) Add Circle:



h) Add Cylinder:
i) Add Tube:
j) Add Cone:
All these options creates an equaliteral shape with a requested number of vertices for the bottom face. The shape created almost fills the current tri-view window.

k) Add Lamp:
Creates a lamp at the current cursor position.

l) Add Vertex:
Places a highlighted vertex at the cursor position.

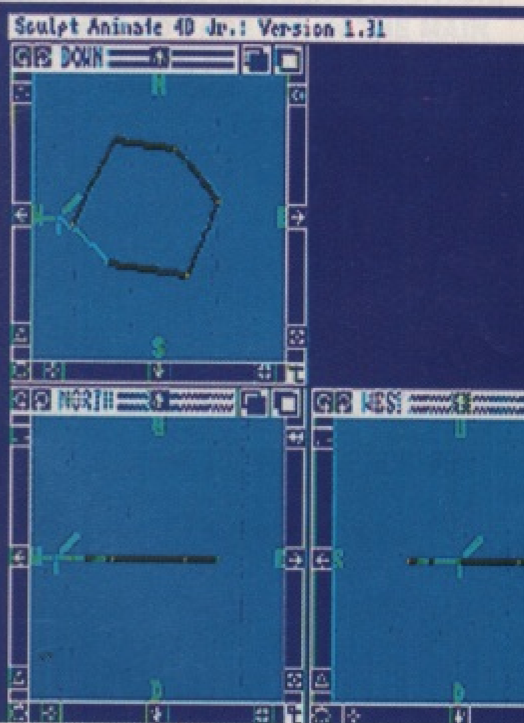
m) Add Edges:
This has the same effect as clicking on the edge-builder in the tri-view window.

3) Under TOOLS

CURVE:

The curve tool allows you to plot curves and shapes without all the hassle of placing vertices and then placing edges.

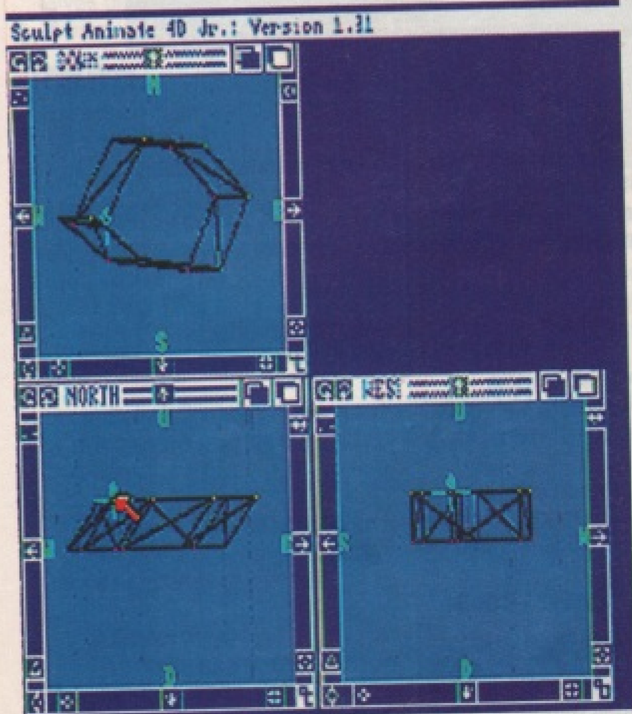
Place a vertex in the normal way and keep the left button held down. A rubber band will be drawn from the last placed vertex to the cursor. Place another vertex and the same will happen again. This will keep on happening until you click the right mouse button to exit this tool.



SCULPT ANIMATE 4D JUNIOR

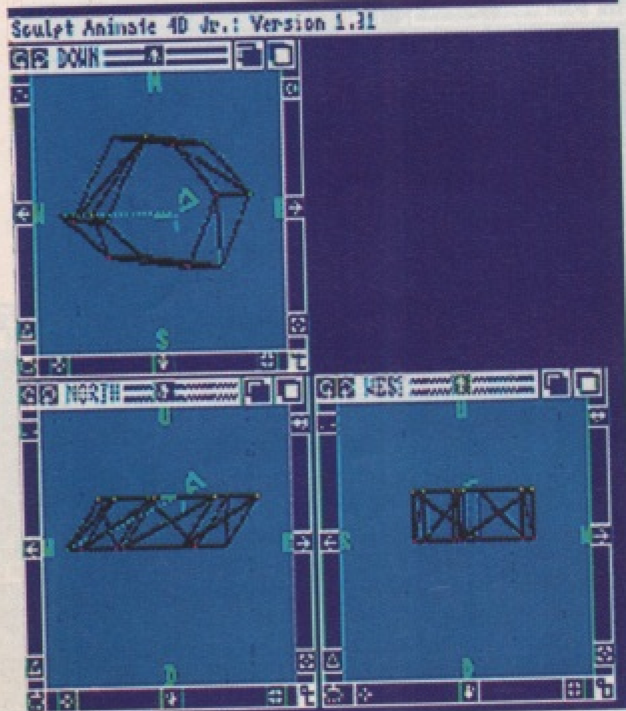
EXTRUDE:

The extrude tool is used to turn a 2 dimensional face into a 3 dimensional shape. When selected it makes a highlighted copy of the currently selected object and activates the grabber. Moving the cursor around places the duplicate and connects all matching vertices with edges, therefore creating a 'blocked out' shape. When finished, click on the grabber to deactivate.



EDGE MAKER:

This rubber band tool lets you join vertices freely, and is especially useful for filling in outline shapes. The left button is held down, and the right button selects the start and end vertices for the edge. When the end vertex is selected, the line is automatically drawn. Right button on its own drops the tool.



GRABBER:

The same tool as the one in the Tri-View icon.

4) Under OBSERVER

MODE:

a) Mode Wireframe: This renders the current image in wireframe with only edges displayed. This mode is fast and ideal for quick checks on your scene.

b) Mode Sketch:
This quickly renders a colour version of your scene. Faces are all displayed, rear ones first, and aren't always hidden properly. This mode is really just another way of checking your scene.

c) Mode Scanline:
This draws the picture properly, with full light-source shading and hidden faces. This is the mode you display your finished image in, so it will take a little more time than the other two modes.

d) Mode Lo Res:
e) Mode Hi Res:
Selects between Amiga Lo-Res and Hi-Res.

f) Mode No Interlace:
g) Mode Interlace:
Selects between displaying with or without vertical interlace.

LOCATION:

This places the viewpoint of the picture at the current cursor location.

TARGET:

Using this sets the target of the camera at the current cursor position.

LENS:

a) Lens Normal:
b) Lens Wideangle:
c) Lens Telephoto:
Selects the camera lens. Used for seeing more or less of a scene.

d) Lens Special: This asks you for non-standard lens type. A low number (below 30) specifies different wideangle lenses, whereas a high number (over 70) prompts for a telephoto lens.

EXPOSURE:

a) Exposure Auto: This sets the screen brightness to a standard level, regardless of the number or brightness of any lamps used.
b) Exposure Manual:
Using lets you set the overall brightness of the picture. 100 is the standard level, with the image getting brighter or darker dependant on how far above or below 100 your exposure is.

IMAGE SIZE:

a) Image Size Medium: With this selected, all images created are displayed in the bottom half of the screen.
b) Image Size Full: With this, images are displayed full screen.
c) Image Size Overscan:
All images displayed are larger than screen size.

START:

This generates the image under the current settings and then displays it. To remove it from view, click on the image with the left button and then with the right.

ABORT:

Interrupts and stops an image being generated.

STATUS:

This switches the status line at the top of the screen on and off.

5) Under WORLD

SKY:

A colour slider requester appears. This allows you to select the colour of any sky in the picture. A box at the top of the requester lets you choose whether to have a solid sky colour, or no sky at all.

GROUND:

This brings up a similar box to the sky requester, and again you can choose to have a solid colour ground or none at all. If a colour is selected, a horizontal line appears in the north and west tri-view windows to display ground level. Anything below this line is hidden when rendered.

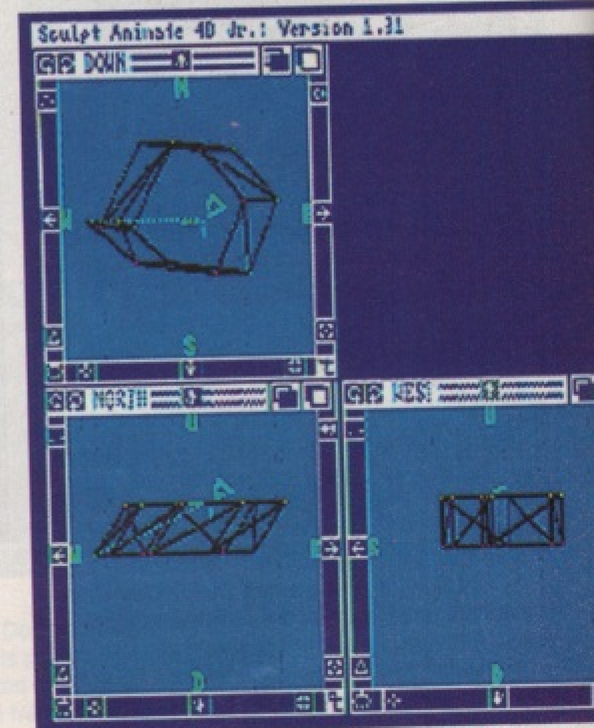
ILLUMINATION:

This allows you to set background illumination through slider bars. This prevents jet black shadows and helps bring depth to your pictures.

GET ANI

Once you've got to grips with the basics, it's then time to experiment with the animation facilities put at your disposal. Again, it's not that difficult, and merely requires a bit of experimentation to get things right.

Sculpt 4D Jnr allows you to create animations with your scenes, moving and changing your objects all the time. This it does using a system called Key Frames. Key Frames allows you to only enter the most important frames of a



STATUS BAR:

While the menu bar is hidden, a status window is displayed at the top of the screen. The stats mean, from left to right:

- **Amount of Chip Memory remaining**
- **Amount of Fast Memory remaining**
- **Number of Selected Vertices**
- **Number of Unselected Vertices**
- **Number of Edges**
- **Number of Faces**
- **Number of Lamps**

ANIMATED

sequence, and the program works out all the frames in between automatically. To create an animation, select Load Take from the PROJECT menu, enter the name of your animation to create a new file, and then go to the Modify Take option, where you can switch between Global and Frame Requesters.

In the Global box, you set all the information for the entire animation. Most of the information boxes are self explanatory, but here's a quick run down. The Number of Frames gadget is where you specify how long the animation is in frames. The RAM animation gadget cycles when clicked upon between Regular, Economy and Anim 5. Anim 5 provides the best compression, but RAM animation gives the fastest playback. The loop mode lets you choose the style in which the animation is played, and is a cycling gadget. 'None' means the animation will play once and stop. 'Loop' means the animation will play in an infinite cycle and 'Oscillate' means the animation will bounce backwards and forwards, end to end. Preview Size chooses the size on screen of the wire-frame animation preview, and clicking on preview lets you see a wire-frame version of your animation. This renders much faster than the scanline images, and therefore is far more convenient for the sake of speed. The Save Images toggle selects whether or not the program stores each image on disk as it renders them, and the Save/Load Global Scene requesters save or load a global scene to use as a background to your animation.

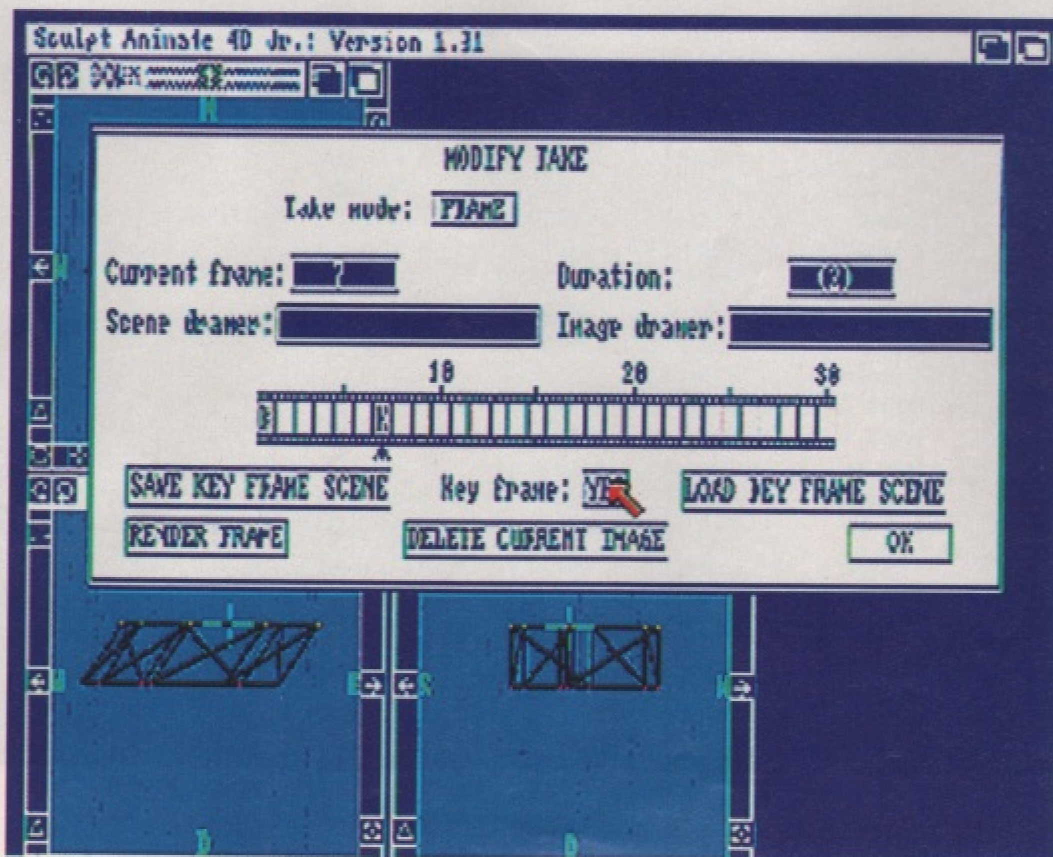
The Frame Box allows you to work on individual frames. At the bottom of the window is a strip of film to the length of frames you specified. The first thing you need to do is select which of the frames are your key frames. This you do by clicking on the frame with the left mouse button, and then clicking on the 'Key Frame?' gadget, to turn it from "NO" to "YES". A letter K will appear in the frame to signify this is a key frame.

Once done you have to create all your key frames, and this is very simple. Exit the requester and create your key frame. Then return to the modify Take box and click on the current Key Frame, and then on 'Save Key Frame'. Repeat this process until all Key Frames are filled. Then cut back to the Global screen and click on preview to create a wire-frame animation.

While the preview is playing, keys 0-9 change the animation speed and ESC exits the animation. To create and save your full animation, click on "Render All".

TH...TH..THAT'S ALL FOLKS!

And that's all there is to it. Don't worry if it all sounds like a foreign language. Once you've loaded up the program and worked through our Coverdisk tutorial it should all become a lot more obvious. If it's still double dutch, keep reading CU AMIGA, as we'll be giving an even more in-depth tutorial in an upcoming issue.



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SCULPT ANIMATE 4D Jnr

Sculpt 4D Jnr is a copy protected program. When the program starts to run, you'll be asked to type in a word from a specific place in the manual. Of course, you don't have the manual, so we've listed the key words together with the pages on which they appear. So, all you have to do, is to type in the required word and away you go. Don't worry about the weird colours we've used to print them on – we know it makes them difficult to see but it prevents the list from being successfully photocopied and thus stops piracy.

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Page 9-10	second paragraph, last word	frames
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RETURN OF THE GODS

When Renegade released *Gods* last year, they had the good taste to package it in a stunning hand-painted cover by top comic book artist, Simon Bisley. Taking that cover as his inspiration, Jim Studt, of ACME shows how to replicate the image using *DPaint* and several hours of extreme patience.

Anyone familiar with the demos scene will probably be aware of the work of Jim Studt. No? If not, perhaps its because he works under the name of 'Airbrush' for most of his work. Only 20 years old, Jim has produced a massive portfolio of computer artwork even though it isn't his favourite means of expression.

He's a member of crack demos team, ACME, responsible for a number of cracking slideshows over the years. Based in Sweden, the group have a growing reputation for fantastically detailed artwork, and Jim is definitely one of their leading talents. He's also an avid reader of CU AMIGA and when he offered us a series of tutorials detailing the finer points of constructing a picture, we jumped at the chance.



One of Jim's stunning screens taken from an ACME slideshow.

Although his computer artwork is often stunning, Jim prefers more traditional methods of constructing his pictures. 'As you might gather from my nickname, I usually paint with airbrush instruments and spraycans in the Stockholm area. Last year I was invited over to Ibiza where I worked for the summer, selling my pictures for obscene amounts of money.'

'I prefer working with 'real' paints instead of computer GFX, as I feel very restricted with the low resolution and the amount of colours available to use. I really don't have the patience to spend more than 10 hours on one picture, although I'd like to try painting on a Paintbox system or at least the Colourburst system for the Amiga.'

Whatever his preferences, there's no denying that his work is stunning. To help other artists, Jim has drawn up a list of special tips and tricks drawn from his years using graphic packages on the Amiga.

1. Draw in Magnify mode with the lowest magnification possible. This will make mouse control easy. Use the zoom gadget until you get double-sized pixels.

2. Try to find photographs or other pictures for your reference. I know some people think you shouldn't do this, but artists have to have some point of reference. The only reason why Michelangelo didn't use photographic references was because there weren't any!

3. The more time you put into a picture, the better it's going to be. Don't be lazy using the 'shade' and 'smooth' tools. Try to make the effects by hand. This will improve your picture and teach your new techniques at the same time.



4. Take a break! After sitting at the same screen working on the same picture for hours on end, you won't be able to see any mistakes. Go and have a cup of coffee and then come back to the screen – things will be a lot clearer.

5. Be patient.

6. Define your palette: use one or two colours in varying shades. For example, from white to light blue to dark blue to black.

7. Become as familiar as possible with the graphic package you're using. Get to know all the effects and instruments, even if you never normally use them.


To begin his picture, Jim starts off with a rough sketch which takes little more than ten minutes to put down.


After the initial sketch, Jim then compares his picture to the original artwork to look for errors and get things in proportion.


After 30 minutes the final sketch is complete. It's probably best to take a break, and come back later to tweak your design.


Now the picture is beginning to get fleshed in. Colours for the metal objects have been selected and the helmet is being painted.


Painting the metal objects is a fairly laborious task. From start to finish this took Jim an energy-sapping 1½ hours.


Skin colours have now been selected and the warrior's right arm is beginning to be fleshed out.


Using a variety of techniques, including the airbrush option, the right arm is now almost complete and attention can turn to the torso.


A border and backgroun colour is selected which doesn't clash with any used so far. This helps highlight the character.


And here it is! The finished picture took Jim approximately 7 hours to complete and is almost identical to Bisley's painted artwork.

OFF THE SHELF

Ready-made graphics and animation sequences can help spice up even the most mediocre of work and save an artist a great deal of time. Sarah Hibbert takes a look at the RealThings art packages which offer visual short cuts to help add extra pazazz to your animations.

Amiga artists aren't proud – they can't afford to be. Anything which speeds up the job has got to be a plus. And not all computer animators are good artists either – so if someone else has done a bit of spadework, they don't mind using it in the least.

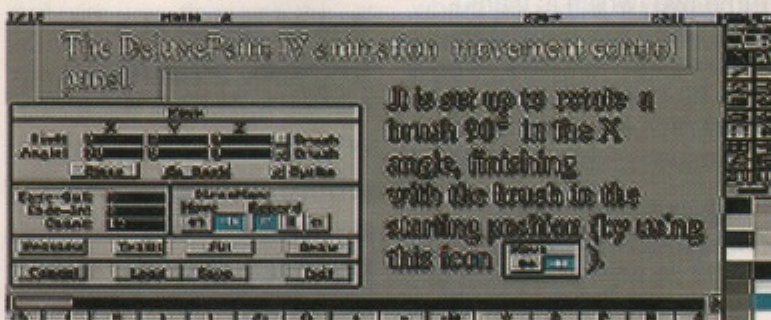
Which brings us to ready-made graphics – the off-the-shelf kind which you can use to pep up your own work. Of particular importance is the *RealThings* collection – a series of projects which range from sea-life to human figures, all created as anim-brushes for use in *DPaint*.

In themselves they are pretty to look at, but they only form the springboard to your own animation projects. Take, for example, the first set of animations unleashed onto the Amiga world: horses. You'll soon tire of having the brushes galloping across your screen, beautifully drawn though they are. Where your skill comes in is to make use of them for your own ends.

In my case I used the package to help create an animated picture of the Old West in which an admittedly garishly-coloured cow-poke gallops across the frame as cacti pass by. The hard part had already been done – the horse was just cribbed from the *RealThings* disk. All I had to do was add the rider in various poses, draw in the tack and add the background.

By utilising ready-made artwork you not only save yourself loads of time, your animations, however humble, have a stamp of professionalism about them. The horse-rider was just one example; in the Sea Life volume, you could have one of the menacing sharks trailing a scuba-diver, and the Safari disks abound with potential.

One trick about cartoon animation is to make life as colourful as possible. Emphasise the fact that this isn't meant to be real-life by using primary colours. And the effect can be enhanced by ensuring each item has an edge of black. This makes them stand out against each other, and is achieved from within *DPaint* by pressing the 'o' key once with black selected as your drawing colour. (By the way, pressing the capital O strips an edge of pixels instead of adding one).



The heart of DPaintIV's wonderful auto-animation control is the movement requester. Master this, and the animated world's your oyster.





Hi-ho silver - awayyyy.... Part of a western scene which comes to life courtesy of DPaint. The horse and rider are part of a 15-frame animbrush which has been stamped down on a static background to move from right to left. The cacti move left to right at different speeds to give some semblance of parallax scrolling (nearer objects moving faster relative to objects further away).

ANIMBRUSH TIPS

Once you've decided on how best to use the various images contained within the RealThings collection, it's then up to you to implement your creative ideas. Of course, it's not as easy as it at first looks, so we've drawn up a list of handy hints and tips for both novice and pro alike.

1 The RealThings animbrushes come ready-made, but like your own animbrushes they can be re-sized by painting each animbrush cell down individually into blank animation frames, then re-sizing each individual image as a normal brush. Paste these re-sized brushes back into their frame after erasing the original, and having made sure they all register (they are centred on screen in each frame), cut the whole lot out as a new animbrush.

2 If you intend adding a new element – such as the cowboy in our example – just use one frame of the horse animation, and fix the background. You can now draw the character without affecting the original horse image. This means that if you make a mistake, you can erase in safety, leaving the main image unharmed.

By pre-planning, you should be able to use colours for your additional character which are not used in the original screen; the horse in our example is white and black, and the cowboy uses primary colours. By doing it this way you can make a stencil of the original colours so that when you clip the brush of the rider, none of the horse will be picked up, and you have a brush comprised solely of the new drawing you've made.

You can then make animated alterations to successive brushes of the rider – a leg movement here, a curl of the hat there, and then paste them down on the original animation.

3 Remember, the stencil tool is ideal for having animbrushes move in front of and behind already drawn backgrounds. Protect items the animbrush needs to be painted behind by making the item's colour part of a stencil, then draw away...



How the west was won - using off-the-shelf animbrushes for your own ends makes sense; here's how a wild RealThings horse was tamed by our artist...

STEP BY STEP

In the first of an occasional series, Peter Lee shares some of his graphic short-cuts to help you become a better animator.

WHO KNOWS THE SHADOW...

It's possible to use DPaint to mimic a number of animated effects that are commonplace on professional systems. One such effect is the casting of an ever-lengthening shadow. Peter Lee explains how it's done.

DPaint's reputation as the premier graphics package is not undeserved. As well as providing more options than any other art package, it can also create elaborate special effects that have only been possible before on expensive graphic workstations.

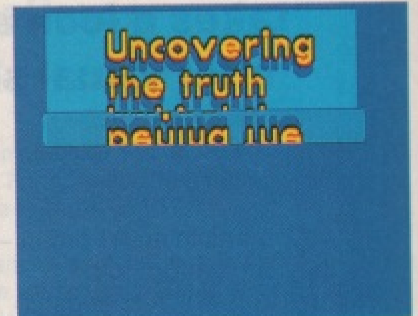
One such effect is the lengthening shadow in which an object casts an ever-longer shadow. This can be either because the assumed light source is being lowered or the object itself is rising out of the background.

In our example we've used a wire-frame drawing of the world. Here's how it's done:

- Cut out your brush and fill the background with a mid-tone colour.
- Create six animation frames (each with the mid-blue background colour).
- With black selected as your background, click the right mouse button and drag the brush 5mm up screen then click the left button. This will draw a small black shadow with your brush painted on top. This is frame 1 of the animation.
- Swap to the spare screen (keyboard J) and store the original there for safe keeping and move back to the first screen.
- Adjust the gridlock function so that there is very little room vertically, but plenty horizontally. This is so that we can move up the screen in a fluid way whilst making sure that the brush is actually anchored in a set position. Ensure the gridlock is on, and use the picture from frame 1 as a brush (the shadowed image), and select black as the foreground colour.
- By pressing F2 on the keyboard, the entire image takes on the foreground colour, regardless of which colours it's actually drawn in.
- Position your by-now chunky black brush exactly over the original artwork, and press the number 2 key; this advances the animation to frame two (which is blank). Now, using the same technique as for the first shadow, draw up-screen in a continuous motion for about half a centimetre.
- Use this new, deeper image as your next brush, and move on to frame 3, repeating the process until you get the desired length of shadow.
- To finish off the job, go back to the spare screen, pick up your original artwork, and stamp it in the correct place of each of the frames you have drawn shadows on.

Once you've grasped the idea, you can make your shadows more subtle, and from any angle – the technique is exactly the same.









The shadow of the source object appears to lengthen throughout the duration of the animation.

GOING FOR A SCROLL

One of the best new tricks on offer in the latest batch of demos is the screen unwrap where an image peels down the screen. Peter Lee tells you how it's done.

WORKING OUT

One of the more stunning effects which demo-makers use is the screen unwrap where a rolled-up image unfurls down the screen, giving you glimpses of what's to come on the reverse of the roll. Luckily you don't need to be a programming genius to simulate this effect – all that's required is *DeluxePaint III* or *IV* and a little work.

It's a double trick really. The main magic is in fooling the eye into believing what isn't there, but the nuts and bolts of this effect is in simple brush manipulation.

STEP BY STEP

- Draw or load in your image, and then flip to the spare screen (J on the keyboard); this will be the start of creating the unfurling animation. Create 20 frames of animation, all of which will be blank at this stage.

■ Fill the screen with a mid-blue colour, and copy this frame to all other frames. Now create the roled up piece of the scroll by drawing a wide rectangle 3cm deep in dark blue. Cut this out as a brush, leaving the screen blank.

■ Now bring up the line requester (right click the mouse button with the pointer in the line tool icon), and in the N Total box, enter 20 and activate that option. This will draw 20 images for whatever length of line you now draw.

■ Select the line tool now, and with your finger on the left Amiga key, start 2 cm down from the top of the screen and draw a vertical line to around 4 cm from the bottom with your finger on the left mouse button. Let go of the button, and watch as your rectangle is drawn on successive frames gradually moving down the screen.

■ Then, working a frame at a time, preferably with the gridlock enabled to help position your starting position, draw a rectangle in the background colour (usually black) from 2cm down from the top, to the start of your roll rectangle; you are creating the top portion of the scroll, which is gradually uncovered as the roll drops down.

■ Do this on each frame (the rectangle gets deeper on each frame, but the width remains constant - the width of your initial bottom rectangle).

■ Play the animation now just to make sure all's well - it should appear as if a roll of black paper is falling down screen, uncovering more and more.

■ That's the hard part - now the fun begins. Remember that lurking in the spare screen is the image you actually want to display. Cut it out as a brush, and move back from the spare page to frame one of the animation.

■ Call up the stencil requester (SHIFT/TAB) and make everything except the background colour a stencil. Effectively this means that the only place you can paint on your animation now is in the rectangle drawn in the background colour - provided your brush is still active, you should be able to see it peeking through.

■ Position your brush image where you want in relation to this 'window', and now stamp it down on each frame in turn. More and more of your brush will be visible as the frames progress and larger rectangles are exposed.

■ A quick way to do this without resorting to the gridlock is to let go of the mouse once the position is correct, and keep your finger on left Amiga key and then keep your finger on the left ALT key (it is important which order you hold the keys down, incidentally); the frames will progress, and the image will be stamped down.

■ Play the animation again and enjoy the sight of your image being 'uncovered'.

■ Now the finishing touch - to create an underside on the scroll portion.

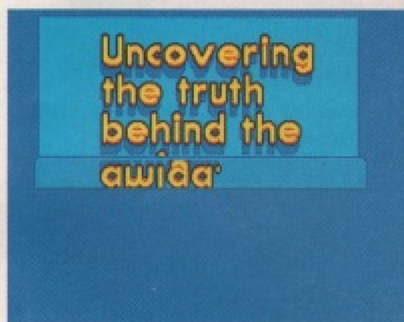
■ This is where the eye's willingness to be fooled is used to good effect. We can't waste time curving the image to fit the supposed curved shape of the roll. Instead we use a straightforward brush.

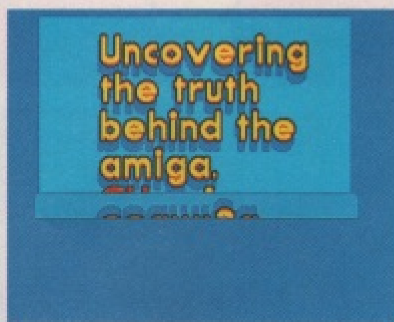
■ Flip to the spare screen, and make a brush out of a portion of the image just below the bit which you can see on the animation frame. Flip the brush by pressing the y key, and go to the animation frame.

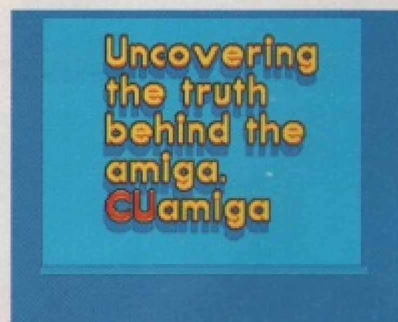
■ Using the stencil function again, make the dark blue rectangle you drew to start with the only unprotected colour. Now you can paste the flipped brush onto it, to simulate a rear-view of what's about to be unfurled next.

■ Do this for each frame, flipping back and forth between the next animation screen and the spare screen with your image on it, moving down the spare-screen image a little at a time, remembering not to include any part of it which is already displayed on the frame you're working on - you have to show what's about to be unfurled, remember.

■ All that's left to do now is pat yourself on the back, gather a small audience and play back the animation - a masterpiece of an effect!







Going for a scroll... Unravel the secrets of this stunning effect by following our guidelines. As the animation progresses, the scroll opens to reveal your message, whilst what's to come shows through on the scroll's reverse.

Mid-way through the technique; that blank rectangle will allow you to peep your main image through once the stencil function is activated.



SIX OF THE BEST

With five years-worth of Amiga animations behind him, Peter Lee offers some of his top hints and tips on ways of becoming a more accomplished animator.

1. Animations are hungry for memory. Use the lowest possible resolution and the fewest colours necessary unless you intend to videotape the sequence, where higher resolutions give sharper images. Bad news is that animations at higher resolutions are comparatively slower because of the additional amount of data to be shifted by the Amiga.

2. If you are animating for video work, tone down the red and blue elements of the colours to minimise any colour bleeding into surrounding areas.

3. If you have an anim brush active, pressing the 7 key will move the animbrush back a frame, 8 will move the sequence forward, which can also be held down to see a running preview of the brush.

4. Providing you have the time, using the anti-alias function while rendering rotational brush animations will give smoother-looking results on playback

5. Using the movement fill option with an animbrush – especially a digitised one – with the brush tilted backwards in the Z plane using the perspective option, gives outstanding results when played back. The screen fills, in true perspective, with individual brushes, which spring to life like living floor tiles when played back. By also moving the tilted brush down screen a couple of dozen pixels as well, you can create a moving carpet of multiple moving images.

6. If you want an animbrush to begin life off-screen, then ease in, you will have to reposition the brush handle to a point outside the brush image. Use the ALT/Z left mouse button combination to place the brush handle - where the mouse pointer holds the brush - in an appropriate place.



Everything in Heimdall, from the island maps to the fight scenes was sketched on paper first.


Imaging the scene: going to bed with the virgin – only to have a fully grown son the next day.

INTRODUCING...

Love them or hate them, there's no doubting that intro sequences can show off the Amiga's incredible graphical prowess. Steve Merrett finds out what exactly goes into setting a scene...

SETTING THE SCENE

The argument for scene-setting introductory sequences is one that has been going for years. Some, like me, think that they are fine, providing they can be skipped and don't unnecessarily stop the player from getting into the game, whilst others feel they are integral to getting the player in the 'mood' for the forthcoming events.

Some can be quite stunning in their effect and defintely enhance the perceived value of a game. *Take Shadow Of The Beast II,* for example. As the player booted up the first disk, the screen showed a small cottage which was isolated in the middle of a raging storm. From here, a mystical creature is shown mutating into the Beast which would snatch the game's hero from his family. As the creature swooped down on the cottage, smashing through the roof and grabbing the baby, it was hard not to be impressed. But where do the coders start when they get the ideas for such sequences?

EXTRA VALUE

According to Jerr O'Carroll, the graphic-supplying half of Core Design's *Heimdall* team, it's all down to planning. 'With *Heimdall*', he explains, 'we knew that people would be impressed with the way the game looked, and we also knew that it would take up to five disks. Consequently, the addition of the demo was to make it look even better value for money.'


Minimal animation was used in this scene, with just the human's hair animated.

'Once we had the basic idea', Jerr continues, 'it was just a matter of getting it all down on paper. Core always plan everything meticulously, as this allows us to allocate memory early on and allow for any unseen problems. We came up with about thirty sketches which were obviously too many, but by tightening up key areas, we managed to get it down to a feasible fifteen.' Jerr admits that it's very easy to get carried away when putting such a sequence together, and this was a trait which used to afflict Psygnosis games. He says that it's integral that the plot of your intro ties in with the game or it's rendered virtually useless – a perfect example of this was with Psynosis's *Stryx* a few years back. I remember booting it up for the first time and being blown away by the stunning monochromatic images of the intro sequence. A ray-traced car whizzed towards me, lights reflected from its shiny bonnet, only to give way to a trashy platform game with absolutely no car-based content at all!

'Putting an intro sequence together is akin to directing a film,' offers Jerr. 'It's all very well having loads of good ideas, but cramming them all in to a limited space can only be done if corners are cut. With *Heimdall*, we opened with a God crouched over something which, in another frame, was revealed to be the Earth. From here, we cut to Thor holding Heimdall in the palm of his hand, and then to the girl's hut. We managed to save loads of memory here with sly palette swaps for the lightning, and then we simply drew the interior of the hut and added roughly six frames for the girl's rude awakenening. In all, it took just eight full bitmapped screens, and a few anims for the sprites which we overlayed.'

OLD FAITHFUL

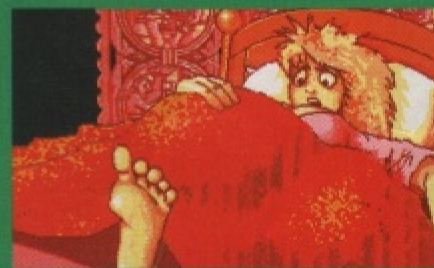
Whilst some animators prefer the more complex *Movie Setter*, Jerr relied on good old *DPaint III* for all his *Heimdall* work. 'It's excellent,' he enthuses. 'Everything in *Heimdall* was drawn using *DPaint* – even the walls of the rooms – and it was its brush utility that made it so useful.' He continues: 'When it came to, say, the scene where the God has the World revolving on his finger, I simply drew up the God and the Earth, and cut out the Earth as a brush. From here, I simply changed the detail on the planet a little, and played it through a sequence of roughly eight animations. The result as the countries scolled by was one of the planet revolving – exactly how I envisaged it, too.'

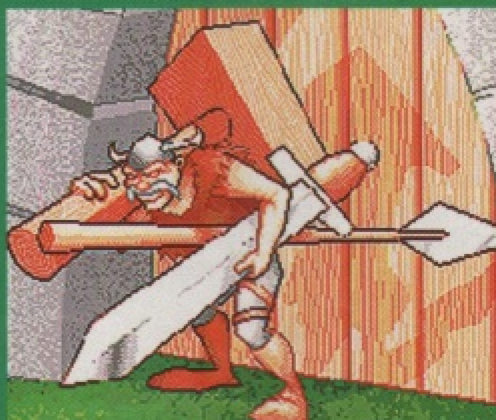
So where does Jerr stand in the 'for or against' argument regarding intro sequences? 'I have to admit,' he says, 'I'm all for them. They add a little extra to a game and certainly add to the scenario if used well. However, and I know this is sitting on the fence somewhat, but I also think that they should be able to be bypassed if necessary – there's nothing to put someone off a game more than having to sit through the same sequence time and time again.' Jerr is currently working with Core again, this time on the long-awaited sequel to *Heimdall*. Detailing the epic Battle Of Ragnorok that the last game preceded, he is up to his arms in game design at the moment. Will that have an intro? 'You bet!' he laughs, and gets back to creating worlds...



Starting on an astral island, the scene swaps to one of the Earth spinning and then to Earth itself. All in all, a mere five pictures make up the sequence, but such is the clever cutting between the scenes that it seems that there are many more. In addition, 8th Day also added text-based screens between the graphical interludes and these form a narrative aid which helps detail what's going on.









After getting everything down on paper, the next stage was to draw it all on DPaint. After outlining the ideas, the pics were then filled section by section using 16 colours.



TOP TEN INTRO SEQUENCES

The last few years have seen some corking intro sequences to games. Core Design appear to place great store on game intros and nearly every one of their games has a mammoth intro. Nor surprisingly, three of their games make the top ten, as do two games from Canadian-based Readysoft. The latter are famous for their conversions of the Space Ace arcade games and feature some of the best graphics you're ever likely to see on the Amiga. Bullfrog's Powermonger also makes the grade, not for its brilliant intro graphics but for the superb soundtrack which accompanies it – an aspect of animation that is often overlooked! One other entry worth a mention is Team 17's Alien Breed intro which begins with a comic-strip progression of mono panels detailing the storyline and then cuts to a stunning ray-traced animation by the prolific Tobias Richter.

1. Thunderhawk (Core)
2. Heimdall (Core)
3. Shadow of the Beast II (Psygnosis)
4. Super Space Invaders (Domark)
5. Wrath of the Demon (Readysoft)
6. Space Ace II (Readysoft)
7. Wolfchild (Core)
8. Alien Breed (Team 17)
9. Another World (Delphine)
10. Powermonger (Bullfrog)